

TABLES

Table 4.13: SWOT Analysis – Society

CRITERIA	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Economy	Swansea City Centre can be accessed from the east via a range of modes through the Study area.	Most existing development along Fabian Way relies on the private car for access.	To enable new development on brownfield sites by improving access.	Congestion caused by new development may damage business interests in the Study area.
Social	The Fabian Way corridor features a variety of services including retail, food and leisure.	Fabian Way forms a physical barrier between developments such as SA1 to the south and the local communities to the north.	To integrate the land use either side of Fabian Way and improve access to services for those without a car.	Increased traffic may further discourage pedestrians and the existing communities may become isolated.
Land Use and Character	The Study area provides a mix of land uses. The development proposals for corridor and Swansea City Centre.	Several areas are in decline or heavily industrial, which detracts from the character of the area.	To offer phased redevelopment for declining industries within the Study area. The new university development may increase public transport demand during non-peak hours.	New business and development may not seek to invest in the current poor economic climate. Dispersal of land use activities. Development of retail units along the corridor would have a detrimental impact on established centres.

Table 4.14: SWOT Analysis – Economic Networks (Transport)

CRITERIA	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Buses	Good existing service with high frequencies, well placed stops and priority measures including a bus / pedestrian / cyclist only bridge and bus gate.	Lengthy journey times to some destinations. Bus shelters and timetables are not available at some key stops. Low existing modal share. Limited off peak services.	To increase patronage by promoting bus use. Increase provision of bus priority measures and dedicated infrastructure. Extension of Swansea Metro using high quality vehicles. Real-time/improved bus information system can be provided at bus stops.	The existing system may have insufficient capacity to cope with the development aspirations for the corridor.
Rail	Good passenger service between Swansea and Cardiff. Freight line in use adjacent to A483.	No passenger stations within the Study area.	To improve site connections to Swansea, Neath, Port Talbot Parkway and Briton Ferry stations and enhance station interchange. To make better use of redundant freight spur beneath Fabian Way into Swansea docks.	Any alteration to Network Rail's land or facilities could be costly and requires coordinated support from the outset.
Walking and Cycling	Adequate network of footways and cyclepaths along the development access points. The SA1 development gives pedestrians clear priority with raised junctions.	Lack of crossing points on the eastern section of Fabian Way or destination signing. Limited cycle provision in Swansea City Centre.	To open up the Study area to pedestrians by increasing the priority of walking and cycling. Employee cycle-to-work schemes can help to reduce car traffic.	Individuals may prefer to drive even if the walking and cycling networks are further improved.
Traffic	Fabian Way carries a significant amount of traffic throughout the day, however no significant congestion issues are reported.	There is some queuing into Swansea in the morning peak. A number of junctions will be over capacity in future years.	To increase the capacity of the corridor by offering viable mode choices whilst maintaining the current level of traffic.	New development may lead to increased traffic giving rise to serious congestion. This may in turn deter developers from further investment in the corridor. In addition there may be accelerated traffic growth as a result of increased car ownership.
Highways	Fabian Way is a good quality dual carriageway with a generally low accident record.	The road was designed for speeds faster than the 30mph and 50mph limit sections, which may encourage speeding. Restricted capacity at a number of junctions, including Jersey Marine, Baldwins Bridge, and the Tawe Bridges may limit traffic growth. Clusters of accidents at junctions.	To address the inefficient junctions around Baldwins Bridge, and improve the capacity of other junctions. Provide alternative access routes to development sites.	The highway is such good quality it may encourage people to drive rather than use alternative sustainable methods. Insufficient capacity to cope with development proposals.
Car Parking	Existing Fabian Way Park & Ride well used, with frequent bus service on partially-segregated route. Parking managed by one company throughout SA1 development.	Park & Ride is situated close to City Centre. Users have to drive some way into the urban area before reaching the Park & Ride site. Existing level of parking provision encourages car use.	To increase out of town parking so drivers can switch modes onto public transport partway through their journey. Alternative Park & Ride routes can be connected to new development east and south of the corridor. Alternative parking payment schemes to encourage car sharing.	If Park & Ride facilities are expanded drivers may not choose to use them. Park & Ride may encourage additional car trips for part of the journey. Excess parking demand from new development may adversely affect off-street car parks in adjacent residential areas.
Port	Swansea docks is an active port with three vehicular entrances. Dock accesses are distant from new developments and pedestrian and cyclist networks along Fabian Way.	Heavy vehicles using the docks may interfere with other users. Ferry to Cork ceased operation in 2006.	To control routing of docks traffic at key times to benefit other network users. Talks ongoing to reinstate ferry service.	The port is a private enterprise, so can increase its generated traffic levels without strategic control.

Table 4.15: SWOT Analysis – Economic Networks (Infrastructure)

CRITERIA	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Utilities	All the main services are present.	Utility location information is often inaccurate. There are various fixed plant locations e.g. substations, treatment works and pumping stations that cannot easily be relocated.	Minimise disruption by coordinating any capacity upgrades to serve new development with the physical highway works associated with this scheme.	Utility diversions can be costly and time consuming but may be necessary to implement particular modifications to the highway.
Flooding	The most recently updated flood map published by the Environment Agency shows Fabian Way on the edge of the 1 in 200 year return period flood zone.	There is some uncertainty regarding the extent of the flood zone. With sea level rise, Fabian Way could be reclassified as at risk in the future.	Risk of flooding to existing development north of Fabian Way could be reduced as part of a highway improvement programme.	Development along the corridor could be limited by the potential flood risk.
Physical Barriers	Existing bridges/underpasses across the western side of Fabian Way provide links and increase permeability.	Existing structures may limit improvement opportunities.	Rationalise importance of individual physical barriers in the strategic context by taking an overall view.	Amending existing physical barriers could be expensive particularly when dealing with third party assets.

Table 4.16: SWOT Analysis – Environment

CRITERIA	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Biodiversity	All designated biodiversity areas have implemented management plans to maintain their interest features.	Fabian Way lies on the boundary of two SSSIs and is very close to a third internationally designated site.	To improve public access, particularly to the periphery of Crymlyn Bog.	The presence of important biodiversity areas may limit the extent of adjacent works on Fabian Way.
Air Quality	An existing Air Quality Management Area lies to the west of the Study area. The existing Park & Ride on Fabian Way is a key measure in reducing congestion to improve air quality.	Elevated atmospheric nutrient deposition is affecting Crymlyn Bog. Critical loads for Nitrogen are being exceeded, chiefly through inflowing streams. Local air quality needs to be regulated and improved. Traffic levels in the area contribute to this problem.	To build on the promotion of sustainable travel instigated by the existing Air Quality Management Area to increase use of non-car modes.	Increasing development along the corridor will generate more traffic and have a negative impact on the Crymlyn Bog.
Landfill / Contamination	The Tir John landfill site was closed to new disposals in 2006.	The extent and severity of contamination from previous heavy industrial uses within the site area is unknown.	To remediate contaminated land and put to appropriate use.	Contaminated land can be costly to clean up if there are plans to build over it.
Public Open Space and Recreation	Large areas of public open space and other recreational facilities within and around the Study area, with aspirations for increasing use and facilities.	Typical urban open space issues, such as fly-tipping and vandalism.	Develop better transport connections/routes between facilities and areas.	Increasing development reducing areas and opportunities for informal recreation.

Table 5.3: Land Use Areas Proposed over the next 25 years by Zone

Zone	Development	Land Use	Area (m ²) / Number	Unit
A	SA1	Residential - Flats	2246	units
		Employment - Office	72319	m ²
		Leisure	11074	m ²
		Local Retail/Café etc	12004	m ²
		Hotel	11860	m ²
		Onshore Marine Facilities	2000	m ²
B	Queens Dock	Existing		
C	Kings Dock	Existing		
D	Mixed Use	Employment - Office	11250	m ²
		Employment - Light Industrial	11250	m ²
E	Residential	Residential – Flats	188	units
F	Mixed Use	Employment - Office	22500	m ²
		Employment - Light Industrial	22500	m ²
		Residential - Flats	225	units
G	Welsh Water Treatment Works	Existing		
H	University Second Campus	See Table 5.2		
I	B1 (Landmark) & Others	Employment – Office	11250	m ²
		Hotel	225	beds
		Residential – Flats	112.5	units
J	B1/B2 Development	Employment – Office	10500	m ²
		Employment – Light Industrial	10500	m ²
K	B1/B2/B8 Development	Employment – Office	21250	m ²
		Employment – Light Industrial	21250	m ²
		Warehousing	21250	m ²
L	MREC Waste Site	Existing		
M	B1/B2/B8 Development	Employment – Office	22500	m ²
		Employment – Light Industrial	22500	m ²
		Warehousing	22500	m ²
N	Amazon Warehouse	Warehousing	70000	m ²
O	B1/B2 Development	Employment – Light Industrial	16900	m ²
		Hotel/Leisure	2310	m ²
P	B1 (Landmark)	Employment – Office	21089	m ²
		Local Retail	465	m ²
Q	Coed Darcy Urban Village	Residential - Housing	4150	units
		Employment - Office	6867	m ²
		Employment - Light Industrial	3433	m ²
		Retail	3800	m ²
		Commercial	8000	m ²
		Education - Primary	6150	m ²
		Education - Secondary	6500	m ²

Table 6.4: Matrix of Problems and Objectives

		Problems												
		P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
Problem Related Study Objectives		Congestion near Tawe Bridges	Baldwins Bridge	Park and Ride too close to City Centre	Lack of eastern gateway to Swansea	Negative local perception of transport	Barrier between north and south	Social exclusion	Lack of continuous cycle facilities	Lack of linkages between green areas	Pollution from traffic	Flood risk	Land contamination	Insufficient capacity of existing utilities
1	To maintain or improve the reliability and predictability of journey times on the corridor for business, commuting and freight	✓	✓	✓		✓			✓			✓	✓	✓
2	To reduce congestion and delay at the Tawe Bridges	✓				✓					✓			
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor			✓		✓			✓					
4	To increase public transport capacity along the corridor			✓		✓								
5	To improve the journey experience of transport users along the corridor by defining a clear gateway into Swansea				✓	✓								
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way					✓	✓	✓						
7	To protect, enhance and improve access to green space within the Study area, particularly Crymlyn Bog and Crymlyn Burrows					✓				✓		✓		
8	To minimise the adverse impacts on air quality for local residents arising from transport	✓	✓	✓		✓	✓				✓			

Table 7.1: Options for Development

Area	Ref	Option	Description of Option
Highway Options			
Tawe Bridges	H1a	Do minimum at Tawe Bridges	Retain the existing arrangement at the Tawe Bridges.
	H1b	Capacity improvements at the Tawe Bridges	Reconfigure the bridge to provide capacity improvements. This could take the form of a one way gyratory, with revised signal controlled junctions at the four corners. This configuration has been considered previously on a number of occasions, including the Arup Port Tawe Transport Assessment (2002) and the Faber Maunsell Tawe Bridges Feasibility Study (2003).
	H2	New bridge for general traffic to south of existing Tawe Bridges	Construct a new bridge over the Tawe for general traffic, utilising the existing bridge piers immediately south of the southern bridge, with associated reconfiguration of the signal controlled junctions at either side.
Existing Park and Ride Bridge	H3a	Allow general traffic to use Park and Ride bridge over Fabian Way (one way only)	Reconfigure the western approach road to connect into the SA1 internal road network to allow westbound traffic to utilise the existing bus only bridge.
	H3b	Allow general traffic to use Park and Ride bridge over Fabian Way (two way shuttle working)	Reconfigure the western approach road to connect into the SA1 internal road network to allow both eastbound and westbound traffic to utilise the existing bus only bridge.
Baldwins Bridge	H4a	Do minimum at Baldwins Bridge	Retain the existing bridge and slip roads.
	H4b	Amend slips at Baldwins Bridge, maintaining existing bridge structure	Retain the bridge, but replace the sub-standard slip roads with longer slips connected to new junctions.
	H4c	New grade-separated junction at Baldwins Bridge	Replace the existing junction with a new bridge, new slips and new internal junctions.
	H4d	New at-grade junction at Baldwins Bridge	Replace the existing junction with a new at-grade junction. This could take the form of a large roundabout or signal controls, depending on traffic levels and the intended nature of Fabian Way in the future.
	H4e	Close Baldwins Bridge as a junction, maintaining existing bridge structure	Remove existing sub standard slips to close access to Fabian Way at this point. Maintain existing bridge structure.
Jersey Marine	H5a	Do minimum at Jersey Marine junction with Fabian Way	Retain the newly installed signal controlled gyratory which includes a two lane bypass for westbound through traffic. The junction was constructed to provide a connection into the newly formed Amazon Distribution Centre, and will form a connection to the southern access of Coed Darcy Urban Village.
	H5b	New grade-separated junction at Jersey Marine junction with Fabian Way	Replace the existing junction with a grade separated junction, either a roundabout or signalised gyratory with an overbridge.
Fabian Way main line	H6a	Convert one lane of existing two lanes on Fabian Way to a bus lane	One lane in each direction to become a bus only lane, leaving one lane in each direction open for use by other traffic.
	H6b	Convert one lane of existing two lanes on Fabian Way to a high occupancy vehicle (HOV) lane	One lane in each direction to become a high occupancy vehicle (HOV) lane, leaving one lane in each direction open for use by other traffic. HOVs include buses and taxis.
	H7a	Widen to dual 3 lane	Widen Fabian Way to 3 lanes in each direction. The widening could be undertaken largely within the highway boundary.
	H7b	Widen to dual 3 lane and convert one lane to a bus lane	Widen Fabian Way to 3 lanes in each direction, with the additional lane dedicated to buses. The widening could be undertaken largely within the highway boundary.
	H7c	Widen to dual 3 lane and convert one lane to a high occupancy vehicle (HOV) lane	Widen Fabian Way to 3 lanes in each direction, with the additional lane dedicated to buses. The widening could be undertaken largely within the highway boundary.
	H7d	Segregated busway north of Fabian Way	Construct a two-way segregated busway north of Fabian Way to link the existing Park and Ride site with the developments east of Baldwins Bridge.
	H8	Remove central reservation to create fifth lane to allow tidal flow operation	A tidal flow lane would provide 3 lanes for the busiest direction of traffic flow, and 2 lanes in the lower flow direction. This would be controlled by overhead gantries every 200m indicating the lane usage which could be changed to match demand.
	H9	Reduce speed limit to 30mph from Jersey Marine	Reduce the speed limit for traffic travelling in both directions from the Jersey Marine junction.
	H10	Parallel development access road	Access to developments along the Fabian Way corridor to be provided from a development access road parallel to Fabian Way.
	H11	Remove or reduce development accesses onto Fabian Way	Direct access from Fabian Way to some developments removed and relocated. Remaining accesses formalised.
	H12	Fabian Way in a tunnel near University campus	The level of the carriageway to be lowered and Fabian Way to be covered to create a tunnel for vehicle use near the University campus.
	H13	Fabian Way in a tunnel between existing communities and SA1	The level of the carriageway to be lowered and Fabian Way to be covered to create a tunnel for vehicle use between existing communities and SA1.
	Rail Options		
Use of existing freight line	R1	Do minimum	Maintain the current freight line.
	R2	Maximise use as a freight line	The allocated number of train paths per day is not being used at present on the Neath and Brecon branch line or the Vale of Neath branch line. There may also be further capacity for train paths from east or west along the South Wales main line.
	R3	Convert to passenger line	The freight line could be converted to a passenger line to provide a heavy rail link to the Fabian Way area. It is likely to require additional infrastructure such as passing loops or lengths of double track.
	R4	Combined passenger / freight line	Passenger services could be run in addition to freight services along the existing line.
	R5	Abandon existing line and re-use corridor for other transport purposes	The existing line is underused at present. If the line was abandoned the corridor could be reused for other transport purposes, such as light rail or an extension of the Swansea Metro.

Table 7.1: Options for Development (continued)

Area	Ref	Option	Description of Option
Bus Options			
General	B1	Do minimum	Maintain the existing network of bus services within the Study area.
Tawe Bridges	B2	New bus only bridge to south of existing Tawe Bridges	Construct a new bridge over the Tawe utilising the existing bridge piers immediately south of the southern bridge for buses only with associated reconfiguration of the signal controlled junctions at either side. All or some westbound bus services and all eastbound bus services to SA1 could be diverted to use the new bridge.
Park and Ride	B3a	Expand existing Park and Ride site	Increase the number of car parking space from 550 to up to 1,100 by including the adjacent site. The existing Park and Ride bus service (no. 502) would follow the same route but require increased service frequency or higher capacity vehicles. Park and Ride service for eastbound journeys could be considered from the site.
	B3b	Operate two-way shuttle working for buses across Park and Ride bridge	Reconfigure the western approach road to connect into the SA1 internal road network. Eastbound buses would either travel on a two-way bus lane on the southern side of Fabian Way or within the SA1 development.
	B4a	New / additional Park and Ride site on vacant land north of Amazon development	Utilise potential site areas on either or both sides of the railway line. Up to 2,000 parking spaces could be provided in each part of the site. The route of the existing Park and Ride bus service (no. 502) could be extended eastwards to include this site, although service frequency may need to be increased or higher capacity buses utilised. The new site could be operated as a stand alone Park and Ride service or in conjunction with the existing site. Park and Ride service for eastbound journeys could also be operated from the site.
	B4b	New / additional Park and Ride site within University development	This site could provide up to 3,000 parking spaces. The route of the existing Park and Ride bus service (no. 502) could be extended eastwards and cross Fabian Way at the existing Elba Crescent junction to include this site. Service frequency may need to be increased or higher capacity buses utilised. The new site could be operated as a stand alone Park and Ride service or in conjunction with the existing site. Park and Ride service for eastbound journeys could also be operated from the site.
	B4c	Convert existing Park and Ride site to Park and Walk site serving SA1	The existing Park and Ride site is connected to the SA1 site via a non-car bridge over Fabian Way. Some drivers accessing SA1 park in the Park and Ride then walk over the bridge to SA1. This option would formalise this arrangement.
Diversions/ extensions of existing services	B5	Divert / extend existing bus services 155 and 156 to cover Coed Darcy urban village	Both services would utilise the proposed Southern Access Road to join Amazon Way west of the Amazon development. The routes into the City Centre are dependent on other options, but could all offer longer operating periods.
	B6	Divert existing local bus service 31/32/33 (Swansea – Birchgrove) to cover SA1	This service could be diverted to route through the SA1 development rather than straight over the Tawe Bridges. Service enhancements could include longer operating periods.
	B7	Divert existing regional bus services to include Fabian Way developments	Divert existing through route services via developments to the north of Fabian Way using Park and Ride bridge. Service enhancements could include longer operating periods.
	B8	Extend bus services 82 and 82A (Bright Orange Bus (BOB)) linking existing University campus to City Centre	The existing BOB service is well patronised by students from the Park campus. It could be extended to link the two campuses via the City Centre.
New routes / services	B9a	New bus routes between University and City Centre	New services could be implemented between the University and the City Centre, either via the SA1 development or Fabian Way.
	B9b	New light rail service between University and City Centre	A new light rail service between the University and the City Centre, either via the SA1 development or Fabian Way. The link would be segregated from general traffic to avoid congestion.
	B10a	New bus routes between Coed Darcy and City Centre	New services could be implemented between Coed Darcy urban village and the City Centre, either via the new Southern Access Road or the existing B4290.
	B10b	New light rail service between Coed Darcy and City Centre	A new light rail service could be implemented between Coed Darcy urban village and the City Centre, either via the new Southern Access Road or existing B4290.
	B11a	New shuttle service between SA1 and City Centre	New bus service between the City Centre and the SA1 development along the Fabian Way main line. This could potentially be an extension of Swansea Metro.
	B11b	New light rail service between SA1 and City Centre	A new light rail service linking the SA1 development and the City Centre along the Fabian Way main line. This could potentially be an extension of Swansea Metro.
	B12a	New shuttle service between University, Science Park Clusters, SA1 and City Centre	New bus service between the City Centre, the SA1 development and the University along either the Fabian Way main line or a dedicated busway to the north of Fabian Way. This could potentially be an extension of Swansea Metro.
	B12b	New light rail service between University, Science Park Clusters, SA1 and City Centre	A new light rail service between the City Centre, the SA1 development and the University along either the Fabian Way main line or a dedicated busway to the north of Fabian Way.
Quality transport hub	B13a	Transport hub providing high quality interchange point adjacent to / within University site	A transport hub will offer commuters a convenient point to interchange between local and regional buses. A hub adjacent to or within the University site would be ideally placed to serve the student population.
	B13b	Transport hub providing high quality interchange point at existing Park and Ride site	A transport hub will offer commuters a convenient point to interchange between local and regional buses. Combining it with the Park and Ride site will give more interchange possibilities.
	B13c	Transport hub providing high quality interchange point at new Park and Ride site	A transport hub will offer commuters a convenient point to interchange between local and regional buses. Combining it with a proposed Park and Ride site will give more interchange possibilities.
Bus priority	B14	Bus priority measures for University and Science Park Cluster junctions on Fabian Way	Provide bus priority measures at the University second campus and Science Park junctions with Fabian Way. This would include widening the approaches to these junctions to create an additional bus only lane allowing buses to bypass any queuing traffic.

Table 7.1: Options for Development (continued)

Area	Ref	Option	Description of Option
Bus priority	B15	Two-way bus-only access north of Baldwins Bridge between Port Tennant and rail sidings	New bus gate on eastern end of Wern Fawr Road to enable buses to access developments on the northern side of the Fabian Way directly from the existing Park and Ride site. Access to the rail sidings for Network Rail/DB Schenker to be ensured.
Facilities at stops	B16a	Improved bus stops: better facilities such as seating and lighting	Provision of better seating, lighting and easy to read timetable information at all bus stops along Fabian Way.
	B16b	Improved bus stops: digital real-time passenger information	Provision of digital real-time passenger information at all key bus stops within the corridor.
Personal rapid transit	B17a	Personal rapid transit (PRT) loop within Fabian Way developments	PRT system with an on-demand service within the Fabian Way corridor.
	B17b	Personal rapid transit (PRT) loop linking Swansea City Centre and Neath, through Fabian Way developments	PRT system with an on-demand service linking Swansea and Neath via the Fabian Way developments
Walking and Cycling Options			
General	W1	Do minimum	Maintain the existing network of footways, cycleways and bridle paths with the Study area.
Leisure Routes	W2a	Extend canal shared route from Celtic Trail NCN Route 4 to Jersey Marine	The extension of this path from the existing off-road Celtic Trail Route 4 has been proposed by Sustrans and NPT as part of the Wales Coastal Path. The route would follow the canal on the south side as far as the west side of the Jersey Marine canal bridge.
	W2b	Extend canal shared route from Celtic Trail NCN Route 4 to the M4	The extension of this path from the existing off-road Celtic Trail Route 4 has been proposed by Sustrans and NPT as part of the Wales Coastal Path. The route would follow the canal on the south side as far as the west side of the Jersey Marine canal bridge, when it would cross to the northern side then continue to the M4. There is an existing bridge over the railway line to link to the M4 cycle route.
	W2c	New footway / cycleway route along existing railway from proposed Celtic Trail NCN Route 4 to the M4	Improve the existing cycleway and footpath alongside the railway freight line to provide a shared route.
	W3a	New on-road cycle route linking Coed Darcy urban village and Fabian Way along proposed Southern Access Road	Cycleway route from Coed Darcy to Fabian Way to link the proposed community to the City Centre. The route would follow the proposed Southern Access Road to the NCN Route 4 adjacent to the Tennant Canal.
	W3b	New off-road pedestrian and cycle route linking Coed Darcy urban village and Fabian Way along the eastern side of Crymlyn Bog	Off-road pedestrian and cycle leisure route linking Coed Darcy to the eastern side of the existing community of Port Tennant via the eastern side of the Crymlyn Bog SSSI and the Tir John landfill site. This route would have a link to option W3a.
	W3c	New off-road pedestrian and cycle route linking Coed Darcy urban village and Port Tennant along the western side of Crymlyn Bog	Off-road pedestrian and cycle leisure route linking Coed Darcy to the eastern side of the existing community of Port Tennant via the western side of the Crymlyn Bog SSSI.
	W4a	New off-road pedestrian and cycle route from Jersey Marine junction with Fabian Way through Crymlyn Burrows (Wales Coastal Path proposal)	Off-road pedestrian footpath and cycleway linking the Jersey Marine junction on Fabian Way with NCN Route 4 beneath the M4 junction 42 off slip.
	W4b	New off-road pedestrian and cycle route from Jersey Marine village through golf course (Wales Coastal Path proposal)	Off-road pedestrian footpath and cycleway through the existing golf course and joining onto the on-road footpath into Jersey Marine.
Developm't Routes	W5a	New on-road cycle route through SA1 north of Prince of Wales Dock linking to Sail Bridge	On-road cycle route from the Port Tennant junction on Fabian Way via the SA1 development to the Sail Bridge over the Afon Tawe.
	W5b	New on-road cycle route through SA1 south of Prince of Wales Dock linking to Sail Bridge	On-road cycle route between Port Tennant junction on Fabian Way via the SA1 development to the Sail Bridge over the Afon Tawe
	W6	New pedestrian and cycle route through University site	Extension of NCN 4 Celtic Trail route into and through the second University campus as far as Baldwins Bridge.
	W7	Provide continuous pedestrian and cycle facilities along both sides of Fabian Way	The existing pedestrian and cycle routes along Fabian Way are discontinuous. Ensure any gaps in the routes are linked and crossing facilities are adequate.
	W8	New pedestrian and cycle route linking SA1 and the University	A new pedestrian and cycle route following the existing privately owned Swansea Docks road behind the waste water treatment works and north of Kings Docks to meet the SA1 development on-road cycle network.
	W9a	Extend on-road cycleway on the B4290 north of Jersey Marine roundabout on Fabian Way through Jersey Marine village as far as the picnic site	The existing on-road cycleway installed as part of the Jersey Marine junction improvements undertaken to facilitate the Amazon development stops before the village of Jersey Marine. This route could be extended as far as the picnic site for leisure purposes.
	W9b	Extend on-road cycleway on the B4290 north of Jersey Marine roundabout on Fabian Way through Jersey Marine village as far as the M4	The existing on-road cycleway installed as part of the Jersey Marine junction improvements undertaken to facilitate the Amazon development stops before the village of Jersey Marine. This route could be extended as far as the cycle route along the M4 via Coed Darcy.
	W10	Extend on-road cycleway north of Jersey Marine roundabout on Fabian Way along the minor unclassified road through Jersey Marine village as far as Llandarcy	The existing on-road cycleway installed as part of the Jersey Marine junction improvements undertaken to facilitate the Amazon development stops before the village of Jersey Marine. This route could be extended as far as Llandarcy.
W11	Extend existing footway and cycleway west along Amazon Way	This route would link the Amazon roundabout to Baldwins Bridge behind the Amazon Distribution Centre.	

Table 7.1: Options for Development (continued)

Area	Ref	Option	Description of Option
Developm't Routes	W12	Bridle path link from canal shared route to Pant-y-Sais stables	The route will follow the cycleway route proposed by Sustrans southeast from Tennant Canal, but will continue across B4290 into Pant-y-Sais stables instead of Jersey Marine roundabout. A pegasus crossing would be needed over the B4290 for access to the stables.
	W13	Moving walks network to link University and Science Park Clusters transport hub	A series of moving walkways within the University and Science Park developments to aid rapid and easy pedestrian movement.
	W14	New cycleway over new bus only bridge to the south of the existing Tawe Bridges	On-road Celtic Trail Route 4 would be continued over the new bus only bridge next to the south Tawe Bridge proposed as Option B2.
	W18	New on-road cycle route through the residential area of Port Tennant and St Thomas	This network would start in the north east area of Port Tennant, down Dan-y-Graig Road joining Port Tennant Road and onto Fabian Way. Links to this main section include parts of the following: Grenfell Park Road, St Leger Crescent, Delhi Street, Wallace Road, Margaret Terrace, Longford Crescent and St Illtyds Crescent.
Crossing Points	W15	New smooth gradient bridge located between Tawe Bridge and SA1 crossing	The bridge would loop over the road diagonally and join the existing off-road cycle path between the SA1 development and Fabian Way.
	W16	New at-grade pedestrian / cycle crossing between SA1 junction and existing footbridge	Pedestrian and cycle crossing located between SA1 junction and first footbridge.
	W17	Upgrade existing footbridge west of Park and Ride junction	Upgrade the existing footbridge to include ramped access in addition to stairs if possible.
Canal Options			
Canal restoration	C1	Do minimum	Canal management within the Study area that continues only to maintain existing water supply function.
	C2	Full integrated waterway restoration, including link into SA1 marina and the Afon Tawe	Full restoration of Neath, Tennant and Swansea Canals as an integrated waterway. Includes links through docks and SA1 development into the Afon Tawe.
	C3	Full restoration of the Neath and Tennant Canals, including link into SA1 marina at the Prince of Wales Dock	Full restoration of Neath and Tennant canals, including restoration of Aberdulais aqueduct and link into SA1 marina development.
	C4	Partial Restoration of Neath and Tennant Canals, not including link into SA1 marina at the Prince of Wales Dock	Partial restoration of the Neath and Tennant Canals of all sections within the Study area, but not including link into SA1 development.
	C5	Protect the route of the restoration proposals	A separate Study by another consultant is considering the cost-benefit analysis for a strategy for developing the canal network between Swansea and Neath. The route of the canal corridor within the Fabian Way Study area could be protected to enable future development of the canal.
Intelligent Transport Systems Options			
General	ITS1	Do minimum	Maintain the existing variable message signs within the Study area.
	ITS2	Variable message signs to show traffic conditions and support Park and Ride	VMS could be utilised to directly support Park and Ride by displaying available spaces, thereby promoting the Park and Ride system itself. The same infrastructure could also display both tactical and strategic information regarding such information as accidents, diversions and major events.
	ITS3	Signal optimisation	Coordination of 'green' signal aspects to particular streams of traffic to minimise stops and delays in a network.
	ITS4	Variable speed limit depending on traffic conditions	Variable speed limits are displayed on overhead gantries approximately 800m apart. They allow reduction of mandatory speed limits based on real-time traffic conditions.
	ITS5	Tolling / congestion charging	A system of charging for using a particular section of road or entering a zone in order to reduce congestion, encourage modal shift and providing increased revenue to support public transport initiatives.
Smarter Choices Options			
General	S1	Do minimum	Maintain the existing system where parking controls and Travel Planning for new developments are defined as part of individual planning consents.
Parking controls	S2	Controlled parking zones for public parking with residential parking scheme	Implement a consistent pricing approach to off- and on-street public parking throughout Study area. This would include a residents parking scheme for the existing residential communities to the north of Fabian Way.
	S3	Limit parking spaces provided in new developments	New developments would be subject to strict maximum numbers of parking spaces per employee or per square unit of floor area. Potential to introduce levies on employers per parking space.
	S4	Priority spaces for car pooling in public car parks	Parking spaces designated for use by car pooling or car sharing could be given prime positions within public car parks.
Travel Planning	S5	All new developments to conform to site-wide Travel Plan, managed and monitored by an overall Travel Plan Coordinator	All new developments within the site area would have to implement Travel Plans conforming to the general principles of the site-wide Travel Plan. This would be managed and monitored by an overall Travel Plan Co-ordinator.
	S6	Residential Travel Plan for communities to the north of Fabian Way, managed and monitored by an overall Travel Plan Coordinator	A residential Travel Plan for the existing communities to the north of Fabian Way to reduce residents' reliance on the car. This would be managed and monitored by an overall Travel Plan Co-ordinator.
	S7	Travel information website showing real-time public transport information, traffic conditions and any issues with pedestrian or cycle links.	Implementation of a travel information website, showing real-time public transport information, traffic conditions and any issues with pedestrian or cycle links. This could be managed and monitored by an overall Travel Plan Co-ordinator.
Ticketing	S8	Smart Card ticketing system throughout the corridor	Smart Card ticketing allows frequent travellers fast and easy interchange on public transport services without the need to buy individual tickets for each journey.

Table 7.12: Summary of Sifted Options

Ref	Option	1 st Sift	2 nd Sift	3 rd Sift	Package
Highway Options					
H1a	Do minimum at the Tawe Bridges	x			
H1b	Capacity improvements at the Tawe Bridges	✓	✓		all
H2	New bridge for general traffic to south of existing Tawe Bridges	x			
H3a	Allow general traffic to use Park and Ride bridge over Fabian Way (one way only)	x			
H3b	Allow general traffic to use Park and Ride bridge over Fabian Way (two way shuttle working)	x			
H4a	Do minimum at Baldwins Bridge	x			
H4b	Amend slips at Baldwins Bridge, maintaining existing bridge structure	✓	x		
H4c	New grade-separated junction at Baldwins Bridge	✓	✓	✓	3,4
H4d	New at-grade junction at Baldwins Bridge	✓	✓	✓	1,2
H4e	Close Baldwins Bridge as a junction, maintaining existing bridge structure	✓	x		
H5a	Do minimum at Jersey Marine junction with Fabian Way	✓	✓		1
H5b	New grade-separated junction at Jersey Marine junction with Fabian Way	✓	✓		2,3,4
H6a	Convert one lane of existing two lanes on Fabian Way to a bus lane	x			
H6b	Convert one lane of existing two lanes on Fabian Way to a high occupancy vehicle (HOV) lane	x			
H7a	Widen to dual 3 lane	x			
H7b	Widen to dual 3 lane and convert one lane to a bus lane	✓	✓	x	
H7c	Widen to dual 3 lane and convert one lane to a high occupancy vehicle (HOV) lane	✓	✓	x	
H7d	Segregated busway north of Fabian Way	✓	✓	✓	2,4
H8	Remove central reservation to create fifth lane to allow tidal flow operation	x			
H9	Reduce speed limit to 30mph from Jersey Marine	✓	✓		1,2
H10	Parallel development access road	✓	✓		3,4
H11	Remove or reduce development accesses onto Fabian Way	✓	✓		3,4
H12	Fabian Way in a tunnel near University campus	✓	x		
H13	Fabian Way in a tunnel between existing communities and SA1	✓	x		
Bus Options					
B1	Do minimum	x			
B2	New bus only bridge to south of existing Tawe Bridges	✓	✓		2,4
B3a	Expand existing Park and Ride site	✓	✓		c
B3b	Operate two way shuttle working for buses across Park and Ride bridge	✓	✓		2,4
B4a	New / additional Park and Ride site on vacant land north of Amazon development	✓	✓	✓	all
B4b	New / additional Park and Ride site within University development	✓	✓	x	
B4c	Convert existing Park and Ride site to Park and Walk site serving SA1	✓	✓		c
B5	Divert / extend existing bus services 155 and 156 to cover Coed Darcy urban village	✓	✓		all
B6	Divert existing local bus service 31/32/33 (Swansea – Birchgrove) to cover SA1	✓	✓		c
B7	Divert existing regional bus services to include Fabian Way developments	✓	✓		c
B8	Extend bus services 82 and 82A (Bright Orange Bus (BOB) linking existing University campus to city centre	✓	✓	✓	all
B9a	New bus routes between University and City Centre	✓	✓	x	
B9b	New light rail service between University and City Centre	✓	x		
B10a	New bus routes between Coed Darcy and City Centre	✓	✓		c
B10b	New light rail service between Coed Darcy and City Centre	✓	x		
B11a	New shuttle service between SA1 and City Centre	✓	x		
B11b	New light rail service between SA1 and City Centre	✓	x		
B12a	New shuttle service between University, Science Park Clusters, SA1 and City Centre	✓	✓		all
B12b	New light rail service between University, Science Park Clusters, SA1 and City Centre	✓	x		
B13a	Transport hub providing high quality interchange point adjacent to / within University site	✓	✓		all
B13b	Transport hub providing high quality interchange point at existing Park and Ride site	✓	x		
B13c	Transport hub providing high quality interchange point at new Park and Ride site	✓	x		
B14	Bus priority measures for University and Science Park Cluster junctions on Fabian Way	✓	✓		c
B15	Two-way bus-only access north of Baldwins Bridge between Port Tennant and rail sidings	✓	✓		1,2,4
B16a	Improved bus stops: better facilities such as seating and lighting	✓	✓		c
B16b	Improved bus stops: digital real-time passenger information	✓	✓		c

Table 7.12: Summary of Sifted Options (continued)

Ref	Option	1 st Sift	2 nd Sift	3 rd Sift	Package
Bus Options					
B17a	Personal rapid transit loop within Fabian Way developments	✓	✗		
B17b	Personal rapid transit loop linking Swansea City Centre and Neath, through Fabian Way developments	✓	✗		
Walking and Cycling Options					
W1	Do minimum	✗			
W2a	Phase 1: Extend canal shared route from Celtic Trail NCN Route 4 to Jersey Marine	✓	✓	✓	c
W2b	Phase 2: Extend canal shared route from Celtic Trail NCN Route 4 to the M4	✓	✓	✓	c
W2c	New footway / cycleway route along existing railway from proposed Celtic Trail NCN Route 4 to the M4	✓	✓	✗	
W3a	New on-road cycle route linking Coed Darcy urban village and Fabian Way along proposed Southern Access Road	✓	✓		all
W3b	New off-road pedestrian and cycle route linking Coed Darcy and Fabian Way along the eastern side of Crymlyn Bog	✓	✓		c
W3c	New off-road pedestrian and cycle route linking Coed Darcy and Port Tennant along the western side of Crymlyn Bog	✓	✓		c
W4a	New off-road pedestrian and cycle route from Jersey Marine junction with Fabian Way through Crymlyn Burrows	✓	✓	✗	
W4b	New off-road pedestrian and cycle route from Jersey Marine village through golf course	✓	✓	✓	c
W5a	New on-road cycle route through SA1 north of Prince of Wales Dock linking to Sail Bridge	✓	✓		c
W5b	New on-road cycle route through SA1 south of Prince of Wales Dock linking to Sail Bridge	✓	✗		
W6	New pedestrian and cycle route through University site	✓	✓		c
W7	Provide continuous pedestrian and cycle facilities along both sides of Fabian Way	✓	✓		c
W8	New pedestrian and cycle route linking SA1 and the University	✓	✗		
W9a	Extend on-road cycleway on the B4290 north of Jersey Marine roundabout on Fabian Way through Jersey Marine village as far as the picnic site	✓	✓	✓	c
W9b	Extend on-road cycleway on the B4290 north of Jersey Marine roundabout on Fabian Way through Jersey Marine village as far as the M4	✓	✓	✗	
W10	Extend on-road cycleway north of Jersey Marine roundabout on Fabian Way along the minor unclassified road through Jersey Marine village as far as Llandarcy	✓	✓		all
W11	Extend existing footway and cycleway west along Amazon Road	✓	✓		all
W12	Bridle path link from canal shared route to Pant-y-Sais stables	✓	✓		c
W13	Moving walks network to link University and Science Park Clusters transport hub	✓	✗		
W14	New cycleway over new bus only bridge to the south of the existing Tawe Bridges	✓	✓		2,4
W15	New smooth gradient bridge located between Tawe Bridge and SA1 crossing	✓	✓		all
W16	New at-grade pedestrian / cycle crossing between SA1 junction and existing footbridge	✓	✓		1,2
W17	Upgrade existing footbridge west of Park and Ride junction	✓	✓		all
W18	New on-road cycle route through the residential area of Port Tennant and St Thomas	✓	✓		c
Rail Options					
R1	Do minimum	✗			
R2	Maximise use as a freight line	✓	✓	✓	all
R3	Convert to passenger line	✓	✗		
R4	Combined passenger / freight line	✓	✓	✓	c
R5	Abandon existing line and re-use corridor for other transport purposes	✓	✗		
Canal Options					
C1	Do minimum	✗			
C2	Full integrated waterway restoration, including link into SA1 marina and the Afon Tawe	✓	✗		
C3	Full restoration of the Neath and Tennant Canals, including link into SA1 marina at the Prince of Wales Dock	✓	✗		
C4	Partial Restoration of Neath and Tennant Canals, not including link into SA1 marina at the Prince of Wales Dock	✓	✗		
C5	Protect the route of the restoration proposals	✓	✓		all
Intelligent Transport Systems Options					
ITS1	Do minimum	✗			
ITS2	Variable message signs to show traffic conditions and support Park and Ride	✓	✓		c
ITS3	Signal optimisation	✓	✓		c
ITS4	Variable speed limit depending on traffic conditions	✗			
ITS5	Tolling / congestion charging	✓	✗		
Smarter Choices Options					
S1	Do minimum	✗			
S2	Controlled parking zones for public parking with residential parking scheme	✓	✓		c

Table 7.12: Summary of Sifted Options (continued)

Ref	Option	1 st Sift	2 nd Sift	3 rd Sift	Package
Smarter Choices Options					
S3	Limit parking spaces provided in new developments	✓	✓		c
S4	Priority spaces for car pooling in public car parks	✓	✓		c
S5	All new developments to conform to site-wide Travel Plan, managed and monitored by an overall Travel Plan Coordinator	✓	✓		all
S6	Residential Travel Plan for communities to the north of Fabian Way, managed and monitored by an overall Travel Plan Coordinator	✓	✓		c
S7	Travel information website showing real-time public transport information, traffic conditions and any issues with pedestrian or cycle links.	✓	✓		c
S8	Smart Card ticketing system throughout the corridor	✓	✓		c

Table 8.13: Cost of Significant Measures (2009 - £m - Net of Reference Case)

Measure		Package							
Ref	Description	1		2		3		4	
		Capital	Recurring / year	Capital	Recurring / year	Capital	Recurring / year	Capital	Recurring / year
H1b	Capacity improvements at the Tawe Bridges	3 - 4	0.01	3 - 4	0.01	3 - 4	0.01	3 - 4	0.01
H4c	New grade-separated junction at Baldwin's Bridge					5-10	-	5-10	-
H4d	New at-grade junction at Baldwin's Bridge	3-4	0.01	3-4	0.01				
H5a	Do-minimum at Jersey Marine junction with Fabian Way	0.1	-						
H5b	New grade-separated junction at Jersey Marine junction with Fabian Way			20 - 25	0.01	20 -25	0.01	20 - 25	0.01
H7d	Segregated busway north of Fabian Way			5 -7	0.03			5 - 7	0.03
H9	Reduce speed limit to 30mph from Jersey Marine	0.5	0.05	0.5	0.05				
H10	Enhance Parallel development access road					0.5 -1	-	0.5 -1	-
H11	Remove/reduce development accesses onto Fabian Way					0.5	-	0.5	-
B2	New bus-only bridge to south of existing Tawe Bridges			3 - 5	0.01			3 - 5	0.01
B3b	Operate two-way shuttle working across existing Park and Ride bridge			0.1	-			0.1	-
B4a	New/additional Park and Ride site north of Amazon	2 - 3	0.5	2 - 3	0.5	2 - 3	0.5	2 - 3	0.5
B5	Divert/extend existing bus services 155 / 156 to Coed Darcy	Included in Reference Case							
B8	Extend bus services 82 and 82A (BOB)	-	0.2	-	0.2	-	0.2	-	0.2
B12a	New shuttle service between University, SA1 and City Centre	-	0.5	-	0.5	-	0.5	-	0.5
B13a	Transport hub adjacent to/within University site	0.3	0.03	0.3	0.03	0.3	0.03	0.3	0.03
B15	Two-way bus-only access north of Baldwin's Bridge	0.1	-	0.1	-			0.1	-
W3a	New on-road cycle route along Southern Access Road	Included in Reference Case							
W10	Extend on-road cycleway north of Jersey Marine village	0.3	0.01	0.3	0.01	0.3	0.01	0.3	0.01
W11	Extend footway and cycleway east along Amazon Road	Included in Reference Case							
W14	New cycleway over new bus-only bridge			Included in B2				Included in B2	
W15	New smooth gradient pedestrian and cycle bridge	1 - 2	0.01	1 - 2	0.01	1 - 2	0.01	1 - 2	0.01
W16	New at-grade pedestrian / cycle crossing	0.2	0.01	0.2	0.01				
W17	Upgrade existing footbridge	0.2	-	0.2	-	0.2	-	0.2	-
C5	Protect the route of the canal restoration proposals	-	-	-	-	-	-	-	-
R2	Maximise use of existing railway as a freight line	-	0.5	-	0.5	-	0.5	-	0.5
S5	Site-wide Travel Plan	-	0.1	-	0.1	-	0.1	-	0.1
TOTALS		10.7- 14.7	1.93	38.7- 51.7	1.98	32.8- 46.3	1.87	41- 58.5	1.91

Table 8.14: Cost of Complimentary Measures (2009 - £m - Net of Reference Case)

<i>Measure</i>		<i>All Packages</i>	
<i>Ref</i>	<i>Description</i>	<i>Capital</i>	<i>Recurring / year</i>
B3a	Expand existing Park and Ride Site	0.2	-
B4c	Convert existing Park and Ride site to Park and Walk site serving SA1 (potential interim measure)	0.1	-
B6	Divert existing bus service 31/32/33 (Swansea – Birchgrove) to cover SA1	-	0.05
B7	Divert existing regional bus services to include Fabian Way developments	-	0.05
B10a	New bus routes between Coed Darcy and City Centre	Included in Reference Case	
B14	Bus priority measures for University and Science Park Cluster junctions on Fabian Way	0.2	-
B16a	Improved bus stops: better facilities such as seating and lighting	0.2	0.05
B16b	Improved bus stops: digital real-time passenger information	0.3	0.05
W2a	Extend canal shared route (footway, cycleway and bridal path) from Celtic Trail NCN Route 4 to Jersey Marine (earlier phase)	0.2	0.1
W2b	Extend canal shared route (footway, cycleway and bridal path) from Celtic Trail NCN Route 4 to the M4 (later phase)	0.5	
W3b	New off-road pedestrian and cycle route linking Coed Darcy urban village and Fabian Way along the eastern side of Crymlyn Bog	0.8	
W3c	New off-road pedestrian and cycle route linking Coed Darcy urban village and Port Tennant along the western side of Crymlyn Bog	0.6	
W4b	New off-road pedestrian and cycle route from Jersey Marine village through the golf course (Wales Coastal Path Proposal)	0.3	
W5a	New on-road cycle route through SA1 north of the Prince of Wales Dock linking the Sail Bridge	0.1	
W6	New pedestrian and cycle route through the University site	0.2	
W7	Provide continuous pedestrian and cycle facilities along both sides of Fabian Way	0.5	
W9a	Extend on-road cycleway on the B4290 north of Jersey Marine roundabout on Fabian Way through Jersey Marine village as far as the picnic site	0.1	
W12	Bridle path link from canal shared route to Pant-Y-Sais stables	0.2	
W18	New on-road cycle route through the residential area of Port Tennant and St Thomas	0.1	
ITS2	Variable message signs to show traffic conditions and support Park and Ride	0.5	0.05
ITS3	Signal optimisation	-	0.05
R4	Protect combined passenger / freight line (longer term aspiration)	-	-
S2	Controlled parking zone for on-street parking with residential parking scheme	0.3	0.05
S3	Limit parking spaces provided in new developments, employer levy per parking space	-	-
S4	Priority spaces for car pooling in public car parks	-	-
S6	Residential Travel Plan for communities to the north of Fabian Way, managed and monitored by an overall Travel Plan coordinator	-	0.03
S7	Travel information website showing real-time public transport information, traffic conditions and any issues with pedestrian or cycle links	-	
S8	Smart Card ticketing system throughout the corridor	Included in Reference Case	
Totals		5.4	0.48

Table 8.16: Appraisal Summary Table for Reference Case

Appraisal Criteria	Assessment	Distribution	Significance
Welsh Impact Areas			
Economic			
Transport Economic Efficiency	No information on capital or operating costs. Minor improvements to enable access to Fabian Way for traffic from the Coed Darcy development.	Road network users accessing the Coed Darcy development.	Neutral
Economic Activity and Location Impacts	Improved links for future residential development at Coed Darcy.	Road network users accessing the Coed Darcy development.	Neutral
Environment			
Noise	Increase in traffic flows will increase exposure to traffic noise, but not to a perceptible degree.	Residential properties within the Study area, particularly within 150m of Fabian Way	Slight adverse
Local Air Quality	Increase in vehicle kilometres travelled likely to generate slight increase in transport emissions.	Local air quality within the study area, including the small part within the Hafod AQMA	Slight adverse
Greenhouse Gas Emissions	Increase in vehicle kilometres travelled likely to generate slight increase in transport emissions.	Local contributions to a global issue.	Slight adverse
Landscape and townscape	The option has no effect on important landscape/townscape features, although some individual measures present limited opportunities for public realm improvements	None	Neutral
Bio-diversity	No recognised biodiversity sites directly affected by this option. Potential fragmentation/damage to Biodiversity Action Plan habitat from the planned parallel development access road (Ffordd Amazon)	Wet woodland habitat	Slight Adverse
Heritage	No recognised historic features directly affected by this option	None	Neutral
Water environment	No water courses directly affected by this option. Pollution effects to nearest watercourses unlikely	None	Neutral
Soils	No agricultural land affected. Little potential to affect known landfill/ contaminated land	None	Neutral
Society			
Transport Safety	Greater traffic flows may increase the number of accidents.	All road network users	Slight adverse
Personal Security	No change from existing situation.	None	Neutral
Permeability	No change from existing situation.	None	Neutral
Physical Fitness	No change from existing situation.	None	Neutral
Social Inclusion	No change from existing situation.	None	Neutral
Equality, Diversity and Human Rights	No change from existing situation.	None	Neutral
Transport			
Junction Capacity	All junctions over capacity resulting in large queues and significant delays during the peak hours.	All road network users.	Moderate adverse
Link Capacity	Tawe Bridges to Baldwins Bridge over capacity, approaches capacity in a number of isolated areas to the east, otherwise within capacity.	All road network users.	Slight adverse
Journey Time by Car	No change from existing situation.	None	Neutral
Journey Time by Public Transport	No change from existing situation.	None	Neutral
Modal Split	No change from existing situation.	None	Neutral
Study Objectives			
1	To maintain or improve the duration, reliability and predictability of journey times on the corridor for business, commuting and freight	Reduction in journey time duration, reliability and predictability due to increased traffic.	Slight adverse
2	To reduce congestion and delay at the Tawe Bridges.	Increased congestion due to higher volumes of traffic.	Slight adverse
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor.	Improved pedestrian and cycle links and bus connections between Coed Darcy and the City Centre.	Slight beneficial
4	To increase public transport capacity along the corridor	No change from existing situation.	Neutral
5	To define a clear gateway into Swansea from the east for transport users along the corridor	No change from existing situation.	Neutral
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way.	No change from existing situation.	Neutral
7	To protect, enhance and improve access to green space within the study area, particularly Crymlyn Bog and Crymlyn Burrows.	No change from existing situation.	Neutral
8	To minimise the adverse impacts on air quality for local residents arising from transport.	Increase in vehicle kilometres travelled likely to generate slight increase in transport emissions.	Slight adverse
Public acceptability: No negative feedback has been provided. This scheme has planning consent and is partially under construction.			
Acceptability to other stakeholders: No negative feedback has been provided. This scheme has planning consent and is partially under construction.			
Technical and operational feasibility: Areas of concern designed out as part of the planning process and subsequently prior to construction.			
Financial affordability and deliverability: Finances are already committed to this scheme.			
Risks: Minimal as detailed design work for the infrastructure measures has been agreed, and amendments to facilities and services will be staged according to the number of houses constructed at Coed Darcy.			

Table 8.17: Appraisal Summary Table for Package 1

Appraisal Criteria	Assessment	Distribution	Significance
Welsh Impact Areas			
Economic			
Transport Economic Efficiency	Capital costs: £16.1m – £20.1m, operating costs: £2.41m p.a. The creation of a community corridor would result in slightly higher journey times. Vehicle kilometres travelled would be reduced. Improved capacity would reduce congestion.	All road users to benefit from reduced congestion.	Slight beneficial
Economic Activity and Location Impacts	The creation of a community corridor and an improved gateway to Swansea would improve perceptions of the city centre and encourage office and retail development.	Economic impacts likely to be concentrated in Swansea. Potential disbenefit to competing city centres in South Wales.	Moderate beneficial
Environment			
Noise	Reductions in traffic flows will reduce exposure to traffic noise, but not to a perceptible degree.	Residential properties within the Study area, particularly within 150m of Fabian Way	Slight beneficial
Local Air Quality	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local air quality within the study area, including the small part within the Hafod AQMA	Slight beneficial
Greenhouse Gas Emissions	Reduction in vehicle kilometres travelled and increase in proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local contributions to a global issue.	Moderate beneficial
Landscape and townscape	The option has no effect on important landscape/townscape features, although some measures present further opportunities for public realm improvements.	All transport users within the study area.	Slight beneficial
Bio-diversity	No recognised biodiversity sites directly affected by this option. Potential fragmentation/damage to Biodiversity Action Plan habitat from the planned parallel development access road (Ffordd Amazon).	Wet woodland habitat.	Slight adverse
Heritage	No recognised historic features directly affected by this option	None.	Neutral
Water environment	No water courses directly affected by this option. Pollution effects to nearest watercourses unlikely	None.	Neutral
Soils	No agricultural land affected. Little potential to affect known landfill/ contaminated land	None.	Neutral
Society			
Transport Safety	More interaction between vulnerable and motorised road users. Severity of accidents likely to be reduced due to lower speed limit.	Road network users west of Jersey Marine junction.	Neutral
Personal Security	Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists. Expanded walking, cycling and bus networks will encourage non-car modes, increasing use and offering informal surveillance.	All users throughout the study area.	Slight beneficial
Permeability	Two new at-grade crossings and one new smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks offering access to key services.	Non-motorised users in the western part of the site.	Moderate beneficial
Physical Fitness	Active travel will be encouraged by expanding the existing walking and cycling networks to serve the proposed developments and enhancing key pedestrian and cycle facilities.	Non-motorised users throughout the study area.	Slight beneficial
Social Inclusion	Expanded walking, cycling and bus networks offering access to key services.	Non-motorised users throughout the study area.	Slight beneficial
Equality, Diversity and Human Rights	No positive or negative discriminatory impact on any individual equality impact group.	No discriminatory options.	Neutral
Transport			
Junction Capacity	Slight improvement in junction capacity due to a reduction in traffic caused by modal shift associated with public transport improvements. Proposed at-grade signal controlled junction at Baldwins Bridge would be over capacity in the evening peak.	Road network users throughout the study area.	Neutral
Link Capacity	Baldwins Bridge to Landon Road / Park and Ride junction reclassified from UAP1 to UAP2 with a corresponding reduction in link capacity. Tawe Bridges to Baldwins Bridge slightly over capacity, otherwise within capacity.	Road network users throughout the study area.	Moderate adverse
Journey Time by Car	Slightly increased journey times by car due to reduction speed limit.	Road network users throughout the study area.	Slight adverse
Journey Time by Public Transport	Bus journey times influenced by volume of traffic. Slight overall reduction.	Bus users throughout the study area.	Neutral
Modal Split	Moderate shift to alternative modes.	Non-motorised users throughout the study area.	Moderate beneficial
Study Objectives			
1	To maintain or improve the duration, reliability and predictability of journey times on the corridor for business, commuting and freight	Slight improvement in journey times due to capacity improvements at the Tawe Bridges and enhanced public transport.	Slight beneficial
2	To reduce congestion and delay at the Tawe Bridges.	Slight reduction in congestion and delay due to capacity improvements at the Tawe Bridges and enhanced public transport.	Slight beneficial
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor.	Expanded walking, cycling and bus networks. Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists.	Moderate beneficial
4	To increase public transport capacity along the corridor	Increased number of routes serving the proposed new developments. Bus priority measures at key junctions along Fabian Way.	Slight beneficial
5	To define a clear gateway into Swansea from the east for transport users along the corridor	30mph speed limit and multiple at-grade crossings would give an urban feel to the area. Eastern Park and Ride site and smooth gradient pedestrian/cycle overbridge as entry features.	Moderate beneficial
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way.	Two new at-grade crossings and one new smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks offering access to key services.	Moderate beneficial
7	To protect, enhance and improve access to green space within the study area, particularly Crymlyn Bog and Crymlyn Burrows.	Expansion of the existing walking and cycling network. New pedestrian/cycle routes to and through the Crymlyn Bog area.	Slight beneficial
8	To minimise the adverse impacts on air quality for local residents arising from transport.	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Slight beneficial
Public acceptability: Generally positive due to improved parking controls, reduced congestion along Fabian Way, increased number of crossing points.			
Acceptability to other stakeholders: The Stakeholder Workshop groups scored Packages 1 and 3 lowest for fit with Study Objectives and the Wales Transport Strategy outcomes.			
Technical and operational feasibility: Construction of the Tawe Bridges gyratory system would be difficult whilst maintaining traffic flows. Limited space to construct new smooth gradient pedestrian and cycle bridge near SA1. New at-grade junction at Baldwins Bridge could be constructed off-line. Concerns regarding enforcement of reduced speed limit. Potential services diversions.			
Financial affordability and deliverability: The least expensive Package, primarily due to the do-minimum option at the Jersey Marine junction.			
Risks: Less significant infrastructure measures reduce risks associated with land acquisition, services diversions and unforeseen ground conditions.			

Table 8.18: Appraisal Summary Table for Package 2

Appraisal Criteria	Assessment	Distribution	Significance
Welsh Impact Areas			
Economic			
Transport Economic Efficiency	Capital costs: £44.1m – £57.1m, operating costs: £2.46m p.a. The creation of a community corridor would result in slightly higher journey times. Vehicle kilometres travelled would be reduced. Improved capacity would reduce congestion.	All road users to benefit from reduced congestion.	Slight beneficial
Economic Activity and Location Impacts	The creation of a community corridor and an improved gateway to Swansea would improve perceptions of the city centre and encourage office and retail development.	Economic impacts likely to be concentrated in Swansea. Potential disbenefit to competing city centres in South Wales.	Moderate beneficial
Environment			
Noise	Reductions in traffic flows will reduce exposure to traffic noise - but not to a perceptible degree.	Residential properties within the Study area, particularly within 150m of Fabian Way	Slight beneficial
Local Air Quality	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local air quality within the study area, including the small part within the Hafod AQMA	Slight beneficial
Greenhouse Gas Emissions	Reduction in vehicle kilometres travelled and increase in proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local contributions to a global issue.	Moderate beneficial
Landscape and townscape	No significant landscape/townscape features likely to be affected. Measures providing significant opportunities for public realm improvements. Raised, grade-separated junction at Jersey Marine likely to open up near views of coastal habitats/Swansea Bay.	Vehicle travellers on junction/slip roads.	Slight beneficial
Bio-diversity	Direct encroachment into Crymlyn Burrows SSSI from enhanced Jersey Marine junction slip roads. Likely secondary effects of habitat degradation. Opportunity for improving water quality of run-off entering the SSSI compared to existing junction. Segregated bus way north of Fabian Way will have construction/pollution control issues to avoid impacts on Crymlyn Bog SAC.	Crymlyn Burrows SSSI.	Moderate adverse
Heritage	No recognised historic features directly affected by this option	None.	Neutral
Water environment	New bridge over the Tawe may have construction/pollution control issues to address. Opportunity for improving water quality of run-off entering Crymlyn Burrows SSSI compared to existing junction.	Afon Tawe and Crymlyn Burrows SSSI.	Neutral
Soils	No agricultural land affected. Little potential to affect known landfill/ contaminated land	None.	Neutral
Society			
Transport Safety	More interaction between vulnerable and motorised road users along Fabian Way, although a proportion of pedestrian activity will transfer to the segregated busway. Severity of accidents likely to be reduced due to lower speed limit.	Road network users west of Jersey Marine junction	Slight beneficial
Personal Security	Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists. Expanded walking, cycling and bus networks with segregated busway will encourage non-car modes, increasing use and offering informal surveillance.	All users throughout the study area.	Moderate beneficial
Permeability	Two new at-grade crossings and one new smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Non-motorised users in the western part of the site.	Moderate beneficial
Physical Fitness	Active travel will be encouraged by expanding the existing walking and cycling networks to serve the proposed developments and enhancing key pedestrian and cycle facilities.	Non-motorised users throughout the study area.	Slight beneficial
Social Inclusion	Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Non-motorised users throughout the study area.	Moderate beneficial
Equality, Diversity and Human Rights	No positive or negative discriminatory impact on any individual equality impact group.	No discriminatory options.	Neutral
Transport			
Junction Capacity	Slight improvement in junction capacity due to a reduction in traffic caused by modal shift associated with public transport improvements. Proposed at-grade signal controlled junction at Baldwins Bridge would be approaching capacity in the evening peak.	Road network users throughout the study area.	Moderate beneficial
Link Capacity	Baldwins Bridge to Landon Road / Park and Ride junction reclassified from UAP1 to UAP2 with a corresponding reduction in link capacity. Tawe Bridges to Baldwins Bridge approaching capacity, otherwise within capacity.	Road network users throughout the study area	Neutral
Journey Time by Car	Slightly increased journey times by car due to reduction speed limit.	Road network users throughout the study area	Slight adverse
Journey Time by Public Transport	Significantly reduced journey times by bus due to segregated busway.	Bus users throughout the study area.	Moderate beneficial
Modal Split	Significant shift to alternative modes.	Non-motorised users throughout the study area.	Large beneficial
Study Objectives			
1	To maintain or improve the duration, reliability and predictability of journey times on the corridor for business, commuting and freight	Improved journey times due to capacity improvements at the Tawe Bridges and enhanced public transport, including segregated busway. Journeys by public transport more reliable and predictable.	Moderate beneficial
2	To reduce congestion and delay at the Tawe Bridges.	Moderate reduction in congestion and delay due to capacity improvements at the Tawe Bridges and enhanced public transport.	Moderate beneficial
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor.	Expanded walking, cycling and bus networks, including segregated busway. Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists.	Large beneficial
4	To increase public transport capacity along the corridor	Dedicated off-line busway offering a public transport corridor that will not be affected by traffic conditions. Increased number of routes serving the proposed new developments. Bus priority measures at key junctions along Fabian Way.	Moderate beneficial
5	To define a clear gateway into Swansea from the east for transport users along the corridor	30mph speed limit and multiple at-grade crossings would give an urban feel to the area. Eastern Park and Ride site and smooth gradient pedestrian/cycle overbridge as entry features.	Moderate beneficial
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way.	Two new at-grade crossings and one new smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Moderate beneficial
7	To protect, enhance and improve access to green space within the study area, particularly Crymlyn Bog and Crymlyn Burrows.	Expansion of the existing walking and cycling network. New pedestrian/cycle routes to and through the Crymlyn Bog area. Encroachment of new grade-separated junction at Jersey Marine into Crymlyn Burrows SSSI.	Neutral
8	To minimise the adverse impacts on air quality for local residents arising from transport.	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Slight beneficial
Public acceptability: Generally positive due to improved parking controls, reduced congestion along Fabian Way, increased number of crossing points.			
Acceptability to other stakeholders: The Stakeholder Workshop groups scored Packages 2 and 4 highest for fit with Study Objectives and the Wales Transport Strategy outcomes.			
Technical and operational feasibility: Construction of the Tawe Bridges gyratory system made easier by utilising new bus only bridge for diverted traffic. Segregated busway could be constructed off-line but concerns regarding Network Rail land. Limited space to construct new smooth gradient pedestrian and cycle bridge near SA1. New at-grade junction at Baldwins Bridge could be constructed off-line. Concerns regarding enforcement of reduced speed limit. New grade-separated junction at Jersey Marine difficult to construct whilst maintaining traffic flows. Potential services diversions.			
Financial affordability and deliverability: The second most expensive Package, due to the grade-separated junction at Jersey Marine and the segregated busway.			
Risks: Significant infrastructure measures pose risks associated with land acquisition, services diversions and unforeseen ground conditions.			

Table 8.19: Appraisal Summary Table for Package 3

Appraisal Criteria	Assessment	Distribution	Significance
Welsh Impact Areas			
Economic			
Transport Economic Efficiency	Capital costs: £38.2m – £51.7m, operating costs: £2.35m p.a. The creation of a strategic transport corridor would reduce travel times and vehicle kilometres travelled. Improved capacity would significantly reduce congestion.	All road users to benefit from lower journey times and reduced congestion.	Moderate beneficial
Economic Activity and Location Impacts	The creation of the strategic corridor and improved travel times and reliability supports the development of new employment along the Fabian Way corridor, particularly for industrial and warehouse uses.	Economic impacts likely to be concentrated along Fabian Way but providing employment to residents across a wider area.	Moderate beneficial
Environment			
Noise	Modest reductions in traffic flows will reduce exposure to traffic noise, but not to a perceptible degree.	Residential properties within the Study area, particularly within 150m of Fabian Way.	Slight beneficial
Local Air Quality	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local air quality within the study area, including the small part within the Hafod AQMA	Slight beneficial
Greenhouse Gas Emissions	Reduction in vehicle kilometres travelled and increase in proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local contributions to a global issue.	Moderate beneficial
Landscape and townscape	No significant landscape/townscape features likely to be affected. Measures providing limited opportunities for public realm improvements. Raised grade-separated junction at Jersey Marine likely to open up near views of coastal habitats/Swansea Bay.	Vehicle travellers on junction/slip roads.	Slight beneficial
Bio-diversity	Direct encroachment into Crymlyn Burrows SSSI from enhanced Jersey Marine junction slip roads. Likely secondary effects of habitat degradation. Opportunity for improving water quality of run-off entering the SSSI compared to existing junction. Potential fragmentation/damage to Biodiversity Action Plan habitat from the planned parallel development access road (Ffordd Amazon)	Crymlyn Burrows SSSI and wet woodland habitat.	Moderate adverse
Heritage	No recognised historic features directly affected by this option	None.	Neutral
Water environment	No water courses directly affected by this option. Opportunity for improving water quality of run-off entering the SSSI compared to existing junction.	None.	Neutral
Soils	No agricultural land affected. Little potential to affect known landfill/ contaminated land	None.	Neutral
Society			
Transport Safety	Less interaction between vulnerable and motorised road users along Fabian Way.	Road network users west of Jersey Marine junction	Slight beneficial
Personal Security	Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists. Expanded walking, cycling and bus networks will encourage non-car modes, increasing use and offering informal surveillance.	All users throughout the study area.	Slight beneficial
Permeability	New smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks offering access to key services.	Non-motorised users in the western part of the site.	Slight beneficial
Physical Fitness	Active travel will be encouraged by expanding the existing walking and cycling networks to serve the proposed developments and enhancing key pedestrian and cycle facilities.	Non-motorised users throughout the study area.	Slight beneficial
Social Inclusion	Expanded walking, cycling and bus networks offering access to key services.	Non-motorised users throughout the study area.	Slight beneficial
Equality, Diversity and Human Rights	No positive or negative discriminatory impact on any individual equality impact group.	No discriminatory options.	Neutral
Transport			
Junction Capacity	Slight improvement in junction capacity due to a reduction in traffic caused by modal shift associated with public transport improvements. The development access road connection at Baldwins Bridge relieves traffic through the Elba Crescent / proposed University access and Jersey Marine junctions.	Road network users throughout the study area.	Slight beneficial
Link Capacity	Tawe Bridges to Baldwins Bridge slightly over capacity, otherwise within capacity.	Road network users throughout the study area	Slight beneficial
Journey Time by Car	Slightly reduced journey times by car due to improvements at junctions.	Road network users throughout the study area	Slight beneficial
Journey Time by Public Transport	Bus journey times influenced by volume of traffic. Slight overall reduction.	Bus users throughout the study area.	Neutral
Modal Split	Slight shift to alternative modes.	Non-motorised users throughout the study area.	Slight beneficial
Transport Planning Objectives			
1	To maintain or improve the duration, reliability and predictability of journey times on the corridor for business, commuting and freight	Improved journey times due to capacity improvements at the Tawe Bridges, Baldwins Bridge and Jersey Marine together with enhanced public transport.	Moderate beneficial
2	To reduce congestion and delay at the Tawe Bridges.	Slight reduction in congestion and delay due to capacity improvements at the Tawe Bridges and enhanced public transport.	Slight beneficial
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor.	Expanded walking, cycling and bus networks. Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists.	Moderate beneficial
4	To increase public transport capacity along the corridor	Increased number of routes serving the proposed new developments. Bus priority measures at key junctions along Fabian Way.	Slight beneficial
5	To define a clear gateway into Swansea from the east for transport users along the corridor	Eastern Park and Ride site and smooth gradient pedestrian/cycle overbridge as entry features.	Slight beneficial
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way.	New smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks offering access to key services.	Slight beneficial
7	To protect, enhance and improve access to green space within the study area, particularly Crymlyn Bog and Crymlyn Burrows.	Expansion of the existing walking and cycling network. New pedestrian/cycle routes to and through the Crymlyn Bog area. Encroachment of new grade-separated junction at Jersey Marine into Crymlyn Burrows SSSI.	Neutral
8	To minimise the adverse impacts on air quality for local residents arising from transport.	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Slight beneficial
Public acceptability: Generally positive due to improved parking controls, reduced congestion along Fabian Way, increased number of crossing points.			
Acceptability to other stakeholders: The Stakeholder Workshop groups scored Packages 1 and 3 lowest for fit with Study Objectives and the Wales Transport Strategy outcomes.			
Technical and operational feasibility: Construction of the Tawe Bridges gyratory system would be difficult whilst maintaining traffic flows. Limited space to construct new smooth gradient pedestrian and cycle bridge near SA1. New at-grade junction at Baldwins Bridge could be constructed off-line. New grade-separated junction at Jersey Marine difficult to construct whilst maintaining traffic flows. Potential services diversions.			
Financial affordability and deliverability: The third most expensive Package, due to the grade-separated junctions at Jersey Marine and Baldwins Bridge.			
Risks: Significant infrastructure measures pose risks associated with land acquisition, services diversions and unforeseen ground conditions.			

Table 8.20: Appraisal Summary Table for Package 4

Appraisal Criteria	Assessment	Distribution	Significance
Welsh Impact Areas			
Economic			
Transport Economic Efficiency	Capital costs: £46.4m – £63.9m, operating costs: £2.39m p.a. The creation of a strategic transport corridor would reduce travel times and vehicle operating costs. Improved capacity would significantly reduce congestion.	All road users to benefit from lower journey times and reduced congestion.	Moderate beneficial
Economic Activity and Location Impacts	The creation of the strategic corridor and improved travel times and reliability supports the development of new employment along the Fabian Way corridor, particularly for industrial and warehouse uses.	Economic impacts likely to be concentrated along Fabian Way but providing employment to residents across a wider area.	Moderate beneficial
Environment			
Noise	Modest reductions in traffic flows will reduce exposure to traffic noise - but not to a perceptible degree.	Residential properties within the Study area, particularly within 150m of Fabian Way	Slight beneficial
Local Air Quality	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local air quality within the study area, including the small part within the Hafod AQMA	Slight beneficial
Greenhouse Gas Emissions	Reduction in vehicle kilometres travelled and increase in proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local contributions to a global issue.	Moderate beneficial
Landscape and townscape	No significant landscape/townscape features likely to be affected. Measures providing significant opportunities for public realm improvements Raised grade-separated junction at Jersey Marine likely to open up near views of coastal habitats/Swansea Bay	Vehicle travellers on junction/slip roads.	Slight beneficial
Bio-diversity	Direct encroachment into Crymlyn Burrows SSSI from enhanced Jersey Marine junction slip roads. Likely secondary effects of habitat degradation. Opportunity for improving water quality of run-off entering the SSSI compared to existing junction. Segregated bus way north of Fabian Way will have construction/pollution control issues to tackle to avoid impacts on Crymlyn Bog SAC. Potential fragmentation/damage to Biodiversity Action Plan habitat from the planned parallel development access road (Ffordd Amazon).	Crymlyn Burrows SSSI, Crymlyn Bog SAC and wet woodland habitat.	Moderate adverse
Heritage	No recognised historic features directly affected by this option	None.	Neutral
Water environment	No water courses directly affected by this option. Opportunity for improving water quality of run-off entering the SSSI compared to existing junction.	None.	Neutral
Soils	No agricultural land affected. Little potential to affect known landfill/ contaminated land	None.	Neutral
Society			
Transport Safety	Less interaction between vulnerable and motorised road users along Fabian Way, particularly as a proportion of pedestrian activity will transfer to the segregated busway.	Road network users west of Jersey Marine junction	Moderate beneficial
Personal Security	Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists. Expanded walking, cycling and bus networks with segregated busway will encourage non-car modes, increasing use and offering informal surveillance.	All users throughout the study area.	Moderate beneficial
Permeability	New smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Non-motorised users in the western part of the site.	Slight beneficial
Physical Fitness	Active travel will be encouraged by expanding the existing walking and cycling networks to serve the proposed developments and enhancing key pedestrian and cycle facilities.	Non-motorised users throughout the study area.	Slight beneficial
Social Inclusion	Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Non-motorised users throughout the study area.	Moderate beneficial
Equality, Diversity and Human Rights	No positive or negative discriminatory impact on any individual equality impact group.	No discriminatory options.	Neutral
Transport			
Junction Capacity	Slight improvement in junction capacity due to a reduction in traffic caused by modal shift associated with public transport improvements. The development access road connection at Baldwins Bridge relieves traffic through the Elba Crescent / proposed University access and Jersey Marine junctions.	Road network users throughout the study area.	Moderate beneficial
Link Capacity	Tawe Bridges to Langdon Road / Park and Ride at capacity, Langdon Road / Park and Ride junction to Baldwins Bridge approaching capacity, otherwise within capacity.	Road network users throughout the study area	Moderate beneficial
Journey Time by Car	Slightly reduced journey times by car due to improvements at junctions.	Road network users throughout the study area	Slight beneficial
Journey Time by Public Transport	Significantly reduced journey times by bus due to segregated busway.	Bus users throughout the study area.	Moderate beneficial
Modal Split	Moderate shift to alternative modes.	Non-motorised users throughout the study area.	Moderate beneficial
Transport Planning Objectives			
1	To maintain or improve the duration, reliability and predictability of journey times on the corridor for business, commuting and freight	Improved journey times due to capacity improvements at the Tawe Bridges, Baldwins Bridge and Jersey Marine together with enhanced public transport, including segregated busway. Journeys by public transport more reliable and predictable.	Large beneficial
2	To reduce congestion and delay at the Tawe Bridges.	Minor reduction in congestion and delay due to capacity improvements at the Tawe Bridges and enhanced public transport.	Slight beneficial
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor.	Expanded walking, cycling and bus networks, including segregated busway. Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists.	Large beneficial
4	To increase public transport capacity along the corridor	Dedicated off-line busway offering a public transport corridor that will not be affected by traffic conditions. Increased number of routes serving the proposed new developments. Bus priority measures at key junctions along Fabian Way.	Moderate beneficial
5	To define a clear gateway into Swansea from the east for transport users along the corridor	Eastern Park and Ride site and smooth gradient pedestrian/cycle overbridge as entry features.	Slight beneficial
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way.	New smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Slight beneficial
7	To protect, enhance and improve access to green space within the study area, particularly Crymlyn Bog and Crymlyn Burrows.	Expansion of the existing walking and cycling network. New pedestrian/cycle routes to and through the Crymlyn Bog area. Encroachment of new grade-separated junction at Jersey Marine into Crymlyn Burrows SSSI.	Neutral
8	To minimise the adverse impacts on air quality for local residents arising from transport.	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Slight beneficial
Public acceptability: Generally positive due to improved parking controls, reduced congestion along Fabian Way, increased number of crossing points.			
Acceptability to other stakeholders: The Stakeholder Workshop groups scored Packages 2 and 4 highest for fit with Study Objectives and the Wales Transport Strategy outcomes.			
Technical and operational feasibility: Construction of the Tawe Bridges gyratory system made easier by utilising new bus only bridge for diverted traffic. Segregated busway could be constructed off-line but concerns regarding Network Rail land. Limited space to construct new smooth gradient pedestrian and cycle bridge near SA1. New at-grade junction at Baldwins Bridge could be constructed off-line. New grade-separated junction at Jersey Marine difficult to construct whilst maintaining traffic flows. Potential services diversions.			
Financial affordability and deliverability: The most expensive Package, due to the grade-separated junctions at Jersey Marine and Baldwins Bridge and the segregated busway.			
Risks: Significant infrastructure measures pose risks associated with land acquisition, services diversions and unforeseen ground conditions.			

Table 8.21: Summary of Appraisal of Different Packages

Summary of Significance						
Appraisal Criteria		Reference Case	Package 1	Package 2	Package 3	Package 4
Welsh Impact Areas						
Economic						
Transport Economic Efficiency		Neutral	Slight beneficial	Slight beneficial	Moderate beneficial	Moderate beneficial
Economic Activity and Location Impacts		Neutral	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial
Environment						
Noise		Slight adverse	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial
Local Air Quality		Slight adverse	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial
Greenhouse Gas Emissions		Slight adverse	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial
Landscape and townscape		Neutral	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial
Bio-diversity		Slight Adverse	Slight adverse	Moderate adverse	Moderate adverse	Moderate adverse
Heritage		Neutral	Neutral	Neutral	Neutral	Neutral
Water environment		Neutral	Neutral	Neutral	Neutral	Neutral
Soils		Neutral	Neutral	Neutral	Neutral	Neutral
Society						
Transport Safety		Slight adverse	Neutral	Slight beneficial	Slight beneficial	Moderate beneficial
Personal Security		Neutral	Slight beneficial	Moderate beneficial	Slight beneficial	Moderate beneficial
Permeability		Neutral	Moderate beneficial	Moderate beneficial	Slight beneficial	Slight beneficial
Physical Fitness		Neutral	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial
Social Inclusion		Neutral	Slight beneficial	Moderate beneficial	Slight beneficial	Moderate beneficial
Equality, Diversity and Human Rights		Neutral	Neutral	Neutral	Neutral	Neutral
Transport						
Junction Capacity		Moderate adverse	Neutral	Moderate beneficial	Slight beneficial	Moderate beneficial
Link Capacity		Slight adverse	Moderate adverse	Neutral	Slight beneficial	Moderate beneficial
Journey Time by Car		Neutral	Slight adverse	Slight adverse	Slight beneficial	Slight beneficial
Journey Time by Public Transport		Neutral	Neutral	Moderate beneficial	Neutral	Moderate beneficial
Modal Split		Neutral	Moderate beneficial	Large beneficial	Slight beneficial	Moderate beneficial
Transport Planning Objectives						
1	To maintain or improve the duration, reliability and predictability of journey times on the corridor for business, commuting and freight.	Slight adverse	Slight beneficial	Moderate beneficial	Moderate beneficial	Large beneficial
2	To reduce congestion and delay at the Tawe Bridges.	Slight adverse	Slight beneficial	Moderate beneficial	Slight beneficial	Slight beneficial
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor.	Slight beneficial	Moderate beneficial	Large beneficial	Moderate beneficial	Large beneficial
4	To increase public transport capacity along the corridor	Neutral	Slight beneficial	Moderate beneficial	Slight beneficial	Moderate beneficial
5	To define a clear gateway into Swansea from the east for transport users along the corridor	Neutral	Moderate beneficial	Moderate beneficial	Slight beneficial	Slight beneficial
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way.	Neutral	Moderate beneficial	Moderate beneficial	Slight beneficial	Slight beneficial
7	To protect, enhance and improve access to green space within the study area, particularly Crymlyn Bog and Crymlyn Burrows.	Neutral	Slight beneficial	Neutral	Neutral	Neutral
8	To minimise the adverse impacts on air quality for local residents arising from transport.	Slight adverse	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial
Public acceptability: All Packages generally positive due to improved parking controls, reduced congestion along Fabian Way, increased number of crossing points.						
Acceptability to other stakeholders: The Stakeholder Workshop groups scored Packages 2 and 4 highest and Packages 1 and 3 lowest for fit with Study Objectives and the Wales Transport Strategy outcomes.						
Technical and operational feasibility: Construction of the Tawe Bridges gyratory system would be difficult whilst maintaining traffic flows, although this would be easier under Packages 2 and 4 by utilising new bus-only bridge for diverted traffic. New at-grade or grade-separated junction at Baldwins Bridge could be constructed off-line. Concerns regarding enforcement of reduced speed limit in Packages 1 and 2. New grade-separated junction at Jersey Marine in Packages 2, 3 and 4 difficult to construct whilst maintaining traffic flows. Segregated busway in Packages 2 and 4 could be constructed off-line but concerns regarding Network Rail land. Limited space to construct new smooth gradient pedestrian and cycle bridge near SA1. Potential services diversions.						
Financial affordability and deliverability: Package 4 is most expensive due to the grade-separated junctions at Jersey Marine and Baldwins Bridge and the segregated busway. Package 1 is the least expensive due to the do-minimum option at the Jersey Marine junction.						
Risks: Significant infrastructure measures in Packages 2, 3 and 4 pose risks associated with land acquisition, services diversions and unforeseen ground conditions. Package 1 has the least associated risk as it includes the least major infrastructure works.						

Table 9.9: Appraisal Summary Table for Preferred Strategy Package 5

Appraisal Criteria	Assessment	Distribution	Significance
Welsh Impact Areas			
Economic			
Transport Economic Efficiency	Capital costs: £27.0m – £39.5m, operating costs: £2.44m p.a. The corridor would lead to a moderate reduction in travel times and vehicle operating costs. Improved capacity would significantly reduce congestion.	All road users to benefit from lower journey times and reduced congestion.	Moderate beneficial
Economic Activity and Location Impacts	Improved travel times and reliability supports the development of new employment along the Fabian Way corridor, particularly for industrial and warehouse uses. An improved gateway to Swansea would improve perceptions of the city centre and encourage office and retail development.	Economic impacts likely to be concentrated in Swansea. Potential disbenefit to competing city centres in South Wales.	Moderate beneficial
Environment			
Noise	Reductions in traffic flows will reduce exposure to traffic noise, but not to a perceptible degree.	Residential properties within the Study area, particularly within 150m of Fabian Way	Slight beneficial
Local Air Quality	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local air quality within the study area, including the small part within the Hafod AQMA	Slight beneficial
Greenhouse Gas Emissions	Reduction in vehicle kilometres travelled and increase in proportion of non-car trips likely to generate moderate reductions in transport emissions.	Local contributions to a global issue.	Moderate beneficial
Landscape and townscape	The option has no effect on important landscape or townscape features, although some measures present further opportunities for public realm improvements compared to Do-Minimum.	All transport users within the study area.	Slight beneficial
Bio-diversity	Segregated bus way north of Fabian Way will have construction/pollution control issues to tackle to avoid impacts on Crymlyn Bog SAC. Potential fragmentation/ damage to Biodiversity Action Plan habitat from the planned parallel development access road (Ffordd Amazon) in Do-Minimum.	Crymlyn Bog SAC, wet woodland habitat.	Minor adverse
Heritage	No recognised historic features directly affected by this option	None.	Neutral
Water environment	New bridge over the Tawe may have construction/pollution control issues to address.	Afon Tawe.	Neutral
Soils	No agricultural land affected. Little potential to affect known landfill/ contaminated land	None.	Neutral
Society			
Transport Safety	More interaction between vulnerable and motorised road users along Fabian Way, although a proportion of pedestrian activity will transfer to the segregated busway. Severity of accidents likely to be reduced due to lower speed limit.	Road network users west of Jersey Marine junction	Moderate beneficial
Personal Security	Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists. Expanded walking, cycling and bus networks with segregated busway will encourage non-car modes, increasing use and offering informal surveillance.	All users throughout the study area.	Moderate beneficial
Permeability	New smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Non-motorised users in the western part of the site.	Slight beneficial
Physical Fitness	Active travel will be encouraged by expanding the existing walking and cycling networks to serve the proposed developments and enhancing key pedestrian and cycle facilities.	Non-motorised users throughout the study area.	Slight beneficial
Social Inclusion	Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Non-motorised users throughout the study area.	Moderate beneficial
Equality, Diversity and Human Rights	No positive or negative discriminatory impact on any individual equality impact group.	No discriminatory options.	Neutral
Transport			
Junction Capacity	Slight improvement in junction capacity due to a reduction in traffic caused by modal shift associated with public transport improvements. The development access road connection at Baldwins Bridge relieves traffic through the Elba Crescent / proposed university access and Jersey Marine junctions.	Road network users throughout the study area.	Moderate beneficial
Link Capacity	Baldwins Bridge to Landon Road / Park and Ride junction reclassified from UAP1 to UAP2 with a corresponding reduction in link capacity. Tawe Bridges to Baldwins Bridge approaching capacity, otherwise within capacity.	Road network users throughout the study area	Slight beneficial
Journey Time by Car	Slightly reduced journey times by car due to improvements at junctions.	Road network users throughout the study area	Neutral
Journey Time by Public Transport	Significantly reduced journey times by bus due to segregated busway.	Bus users throughout the study area.	Moderate beneficial
Modal Split	Significant shift to alternative modes.	Non-motorised users throughout the study area.	Large beneficial
Study Objectives			
1	To maintain or improve the duration, reliability and predictability of journey times on the corridor for business, commuting and freight	Improved journey times due to capacity improvements at the Tawe Bridges and Baldwins Bridge together with enhanced public transport, including segregated busway. Journeys by public transport more reliable and predictable.	Moderate beneficial
2	To reduce congestion and delay at the Tawe Bridges.	Moderate reduction in congestion and delay due to capacity improvements at the Tawe Bridges and enhanced public transport.	Moderate beneficial
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor.	Expanded walking, cycling and bus networks, including segregated busway. Improved waiting facilities at bus stops and interchanges. Enhanced facilities for pedestrians and cyclists.	Large beneficial
4	To increase public transport capacity along the corridor	Dedicated off-line busway offering a public transport corridor that will not be affected by traffic conditions. Increased number of routes serving the proposed new developments. Bus priority measures at key junctions along Fabian Way.	Moderate beneficial
5	To define a clear gateway into Swansea from the east for transport users along the corridor	40mph speed limit gives more of an urban feel. Eastern Park and Ride site and smooth gradient pedestrian/cycle overbridge as entry features.	Moderate beneficial
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way.	New smooth gradient pedestrian/cycle bridge over Fabian Way. Expanded walking, cycling and bus networks including segregated busway offering access to key services.	Slight beneficial
7	To protect, enhance and improve access to green space within the study area, particularly Crymlyn Bog and Crymlyn Burrows.	Expansion of the existing walking and cycling network. New pedestrian/cycle routes to and through the Crymlyn Bog area.	Slight beneficial
8	To minimise the adverse impacts on air quality for local residents arising from transport.	Reduction in vehicle kilometres travelled and improvements to proportion of non-car trips likely to generate moderate reductions in transport emissions.	Slight beneficial
Public acceptability: Generally positive due to improved parking controls, reduced congestion along Fabian Way and an increased number of crossing points.			
Acceptability to other stakeholders: A hybrid of the two most popular Packages from the second Stakeholder Workshop, the compromise speed limit is acceptable to most.			
Technical and operational feasibility: Construction of the Tawe Bridges gyratory system would be difficult whilst maintaining traffic flows. Segregated busway could be constructed off-line but concerns regarding Network Rail land. Limited space to construct new smooth gradient pedestrian and cycle bridge near SA1. New grade-separated junction at Baldwins Bridge could be constructed off-line. Concerns regarding enforcement of reduced speed limit. Potential services diversions.			
Financial affordability and deliverability: The second least expensive Package, primarily due to the do-minimum option at the Jersey Marine junction.			
Risks: Significant infrastructure measures pose risks associated with land acquisition, services diversions and unforeseen ground conditions.			

Table 9.10: Summary of Appraisal of Different Packages

Summary of Significance							
Appraisal Criteria	Reference Case	Package 1	Package 2	Package 3	Package 4	Package 5	
Welsh Impact Areas							
Economic							
Transport Economic Efficiency	Neutral	Slight beneficial	Slight beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	
Economic Activity and Location Impacts	Neutral	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	
Environment							
Noise	Slight adverse	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	
Local Air Quality	Slight adverse	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	
Greenhouse Gas Emissions	Slight adverse	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	Moderate beneficial	
Landscape and townscape	Neutral	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	
Bio-diversity	Slight adverse	Slight adverse	Moderate adverse	Moderate adverse	Moderate adverse	Moderate adverse	Slight adverse
Heritage	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Water environment	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Soils	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Society							
Transport Safety	Slight adverse	Neutral	Slight beneficial	Slight beneficial	Moderate beneficial	Moderate beneficial	
Personal Security	Neutral	Slight beneficial	Moderate beneficial	Slight beneficial	Moderate beneficial	Moderate beneficial	
Permeability	Neutral	Moderate beneficial	Moderate beneficial	Slight beneficial	Slight beneficial	Slight beneficial	
Physical Fitness	Neutral	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	
Social Inclusion	Neutral	Slight beneficial	Moderate beneficial	Slight beneficial	Moderate beneficial	Moderate beneficial	
Equality, Diversity and Human Rights	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Transport							
Junction Capacity	Moderate adverse	Neutral	Moderate beneficial	Slight beneficial	Moderate beneficial	Moderate beneficial	
Link Capacity	Slight adverse	Moderate adverse	Neutral	Slight beneficial	Moderate beneficial	Slight beneficial	
Journey Time by Car	Neutral	Slight adverse	Slight adverse	Slight beneficial	Slight beneficial	Neutral	
Journey Time by Public Transport	Neutral	Neutral	Moderate beneficial	Neutral	Moderate beneficial	Moderate beneficial	
Modal Split	Neutral	Moderate beneficial	Large beneficial	Slight beneficial	Moderate beneficial	Large beneficial	
Study Objectives							
1	To maintain or improve the duration, reliability and predictability of journey times on the corridor for business, commuting and freight.	Slight adverse	Slight beneficial	Moderate beneficial	Moderate beneficial	Large beneficial	Moderate beneficial
2	To reduce congestion and delay at the Tawe Bridges.	Slight adverse	Slight beneficial	Moderate beneficial	Slight beneficial	Slight beneficial	Moderate beneficial
3	To actively promote ultra-low carbon alternatives such as walking and cycling and low carbon alternatives such as public transport options in order to double the modal share for alternative modes of travel along the length of the corridor.	Slight beneficial	Moderate beneficial	Large beneficial	Moderate beneficial	Large beneficial	Large beneficial
4	To increase public transport capacity along the corridor	Neutral	Slight beneficial	Moderate beneficial	Slight beneficial	Moderate beneficial	Moderate beneficial
5	To define a clear gateway into Swansea from the east for transport users along the corridor	Neutral	Moderate beneficial	Moderate beneficial	Slight beneficial	Slight beneficial	Moderate beneficial
6	To improve connectivity and accessibility between communities and developments north and south of Fabian Way.	Neutral	Moderate beneficial	Moderate beneficial	Slight beneficial	Slight beneficial	Slight beneficial
7	To protect, enhance and improve access to green space within the study area, particularly Crymlyn Bog and Crymlyn Burrows.	Neutral	Slight beneficial	Neutral	Neutral	Neutral	Slight beneficial
8	To minimise the adverse impacts on air quality for local residents arising from transport.	Slight adverse	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial	Slight beneficial
Public acceptability: All Packages generally positive due to improved parking controls, reduced congestion along Fabian Way, increased number of crossing points.							
Acceptability to other stakeholders: The Stakeholder Workshop groups scored Packages 2 and 4 highest and Packages 1 and 3 lowest for fit with Study Objectives and the Wales Transport Strategy outcomes.							
Technical and operational feasibility: Construction of the Tawe Bridges gyratory system would be difficult whilst maintaining traffic flows. New at-grade or grade-separated junction at Baldwins Bridge could be constructed off-line. Concerns regarding enforcement of reduced speed limit in Packages 1, 2 and 5. New grade-separated junction at Jersey Marine in Packages 2, 3 and 4 difficult to construct whilst maintaining traffic flows. Segregated busway in Packages 2, 4 and 5 could be constructed off-line but concerns regarding Network Rail land. Limited space to construct new smooth gradient pedestrian and cycle bridge near SA1. Potential services diversions.							
Financial affordability and deliverability: Package 4 is most expensive due to the grade-separated junctions at Jersey Marine and Baldwins Bridge and the segregated busway. Package 1 is the least expensive due to the do-minimum option at the Jersey Marine junction. Package 5 is the second least expensive.							
Risks: Significant infrastructure measures in Packages 2, 3 and 4 pose risks associated with land acquisition, services diversions and unforeseen ground conditions. Package 1 has the least associated risk as it includes the least major infrastructure works.							

Table 10.1: Development Aspiration Timescales

Zone	Development	Primary Sponsors	Comment	Time Period				
				2010 - 2014	2015 - 2019	2020 - 2024	2025 - 2029	2030+
A	SA1		Works ongoing, due for completion 2019					
B	Queens Dock	ABP	Existing, may be developed by ABP					
C	Kings Dock	ABP	Existing, may be developed by ABP					
D	Mixed Use		Works ongoing, nearly complete					
E	Residential		Works ongoing					
F	Mixed Use		Land goes back to ABP in 2012					
G	Waste Water Treatment Works	Welsh Water	Existing, may be upgraded					
H	University Second Campus	Swansea University, BP	Works due to start on site end 2009					
I	B1 (Landmark) & Others		Significant existing development					
J	B1/B2 Development		Significant existing development					
K	B1/B2/B8 Development							
L	MREC Waste Site	Existing	Existing					
M	B1/B2/B8 Development							
N	Amazon Distribution Centre		No further expansion					
O	B1/B2 Development	WAG	Potential Park and Ride site					
P	B1 (Landmark)							
Q	Coed Darcy Urban Village	St Modwens						
-	Morfa Road		Potential impacts on proposals for Tawe Bridges gyratory system					
-	Parc Tawe, Quad and Waterfront		Relocation of Tesco, retail and residential					

Table 10.2: Implementation Programme for the Preferred Strategy

Ref	Primary Sponsor	Time Period				Costs (£m at 2009 prices)	
		2010 - 2014	2015 - 2019	2020 - 2029	2030 +	Capital	Recurring / year
Highways							
H1b	WAG, CCS					3 - 4	0.01
H4c	WAG, CCS					5 - 10	-
H5a	NPT					0.1	-
H5b	WAG, NPT					-	-
H7d	WAG, CCS, NPT					5 - 7	0.03
H9	WAG, CCS, NPT					0.5	0.05
H10	WAG, CCS, NPT					0.5 - 1	-
H11	WAG, CCS, NPT					0.5	-
Public Transport							
B2	WAG, CCS					3 - 5	0.01
B3a	CCS					0.2	-
B3b	WAG, CCS					0.1	-
B4a	WAG, NPT, CCS					2 - 3	0.5
B4c	CCS, SA1					0.1	-
B5	Coed Darcy					Included in Reference Case	
B6	CCS, SA1, First Cymru					-	0.05
B7	CCS, NPT, First Cymru					-	0.05
B8	University, First Cymru					-	0.2
B10a	Coed Darcy					Included in Reference Case	
B12a	University					-	0.5
B13a	University					0.3	0.03
B14	University					0.2	
B15	Coed Darcy					0.1	-
B16a, b	First Cymru					0.5	0.1
Walking and Cycling							
W2a	WAG, CCS, NPT					0.2	0.01
W2b	WAG, CCS, NPT					0.5	0.01
W3a	Coed Darcy					Included in Reference Case	
W3b	WAG, NPT					0.8	0.01
W3c	WAG, NPT					0.6	0.01
W4b	WAG, NPT					0.3	0.01
W5a	WAG, CCS, NPT					0.1	0.01
W6	University					0.2	0.01
W7	WAG, CCS, NPT					0.5	0.01
W9a	WAG, NPT					0.1	0.01
W10	WAG, NPT					0.3	0.01
W11	Coed Darcy					Included in Reference Case	
W12	WAG, NPT					0.2	0.01
W14	WAG, CCS					Included in Option B2	
W15	WAG, CCS, SA1					1 - 2	0.01
W17	WAG, CCS, NPT					0.2	-
W18	WAG, CCS, NPT					0.1	0.01
Demand Management							
S2	WAG, CCS, NPT					0.3	0.05
S3, S4	WAG, CCS, NPT					-	-
S5	WAG, CCS, NPT					-	0.1
S6, S7	WAG, CCS, NPT					-	0.03
S8	WAG, CCS, NPT					Included in Reference Case	
Others – Rail, Canal, ITS							
ITS2	WAG, CCS, NPT					0.5	0.05
ITS3	WAG, CCS, NPT					-	0.05
R2	WAG, CCS, NPT					-	0.5
R4	WAG, CCS, NPT					-	-
C5	WAG, CCS, NPT					-	-
Capital Cost (£m at 2009 prices)		11.2 – 15.2	4.7 – 6.7	11.1 – 17.6	Not costed	Total Strategy 27.0 – 39.5	
Recurring Cost per Year (£m at 2009 prices)		1.0	1.83	2.44	Not costed	Total Recurring / Year = 2.44	

FIGURES

Legend
Site Boundary



ARUP
4 Pilehead Street
Cardiff, Wales
CF10 4QP
Tel: +44 (0)29 2047 3727
Fax: +44 (0)29 2047 2277
www.arup.com

Client
Welsh Assembly Government

Job Title
**Fabian Way Corridor
Transport Assessment**

Drawing Title
Study Area - Local Context

Scale at A3
1:25,000

Drawing Status

Issue

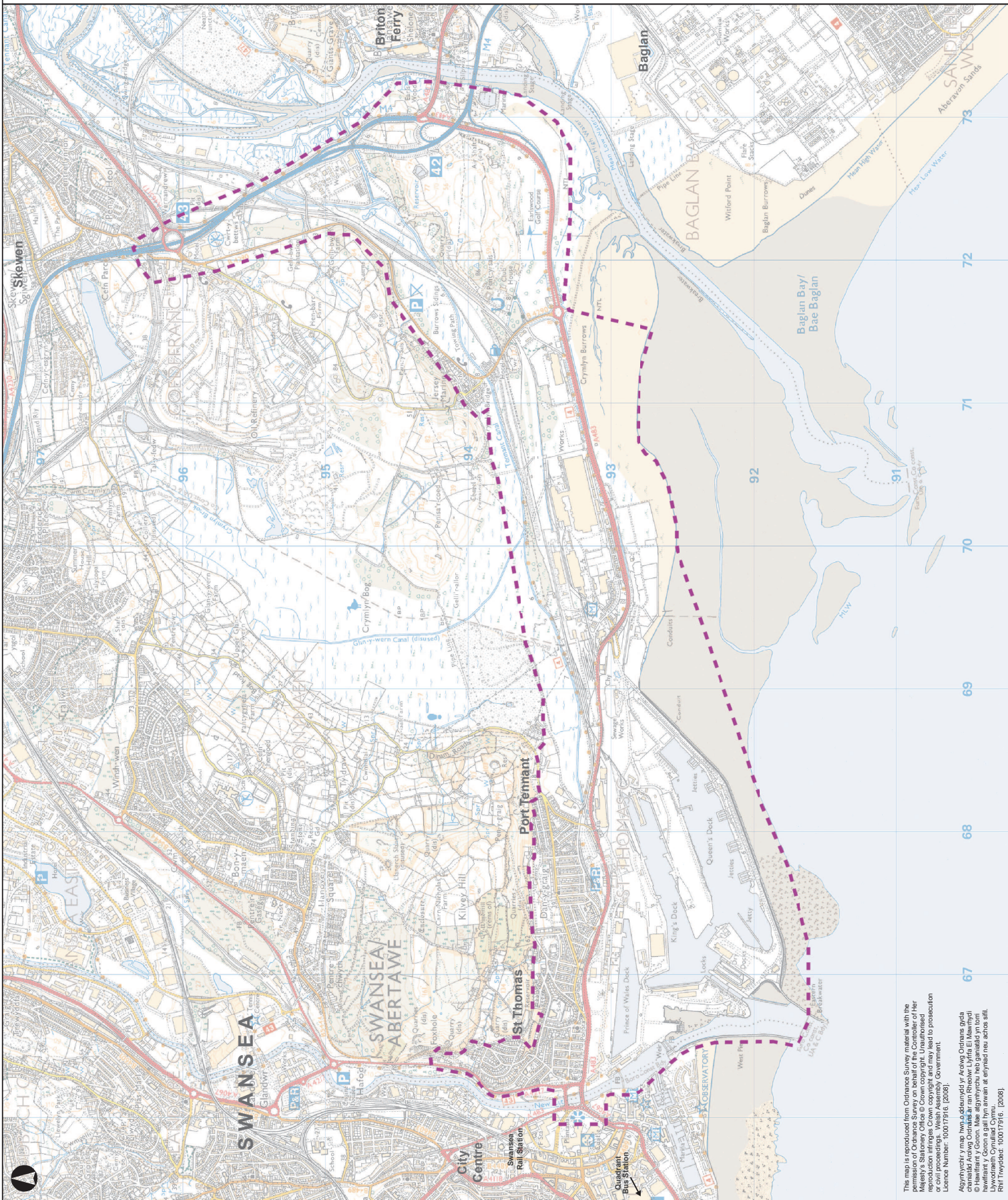
Job No
207815-00

Drawing No

Figure 1.1

Issue

P1



The map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution. Licence Number: 100017916 (2008)

Arwyddwr y map hon ydychiwnedig yn awgrymu Ochrmas gyda
© Hawffwrdd y Goron. Mae arwyddoch hon ganiatáu yn tynni
hawffwrdd y Goron a gall llym awrwan at eiddad neu achos afl.
RNI 100017916 (2008)



Legend

 Site Boundary



ARUP

4 Pierhead Street
Cardiff Business Park
Cardiff
CF10 4QP
Tel: +44 (0)303 797 277
Fax: +44 (0)303 2047 2277
www.arup.com

Client

Welsh Assembly Government

Job Title

**Fabian Way Corridor
Transport Assessment**

Drawing Title

Aerial View of Study Area

Scale at A3

1:25,000

Drawing Status

Issue

Job No

207915-00

Drawing No


Figure 4.1

Issue

P1

Legend

- Site Boundary
- Pedestrian and Cycle Crossings**
- 66 Cycle Underpass
- 4 Signalised Crossing
- 4 Footbridge
- 4 Minor Crossing
- Cycle Route Classification**
- National Cycle Network
- Local Route
- NPT Cycleway Network
- Route 4 Celtic Trail NCN
- On Road Cycle Route
- Route 43 Celtic Trail
- Proposed Future Cycle Route



ARUP

4 Pierhead Street
Cardiff, Wales
CF10 4DP
Tel: +44 (0)303 797 7377
Fax: +44 (0)303 2047 2277
www.arup.com

Client
Welsh Assembly Government

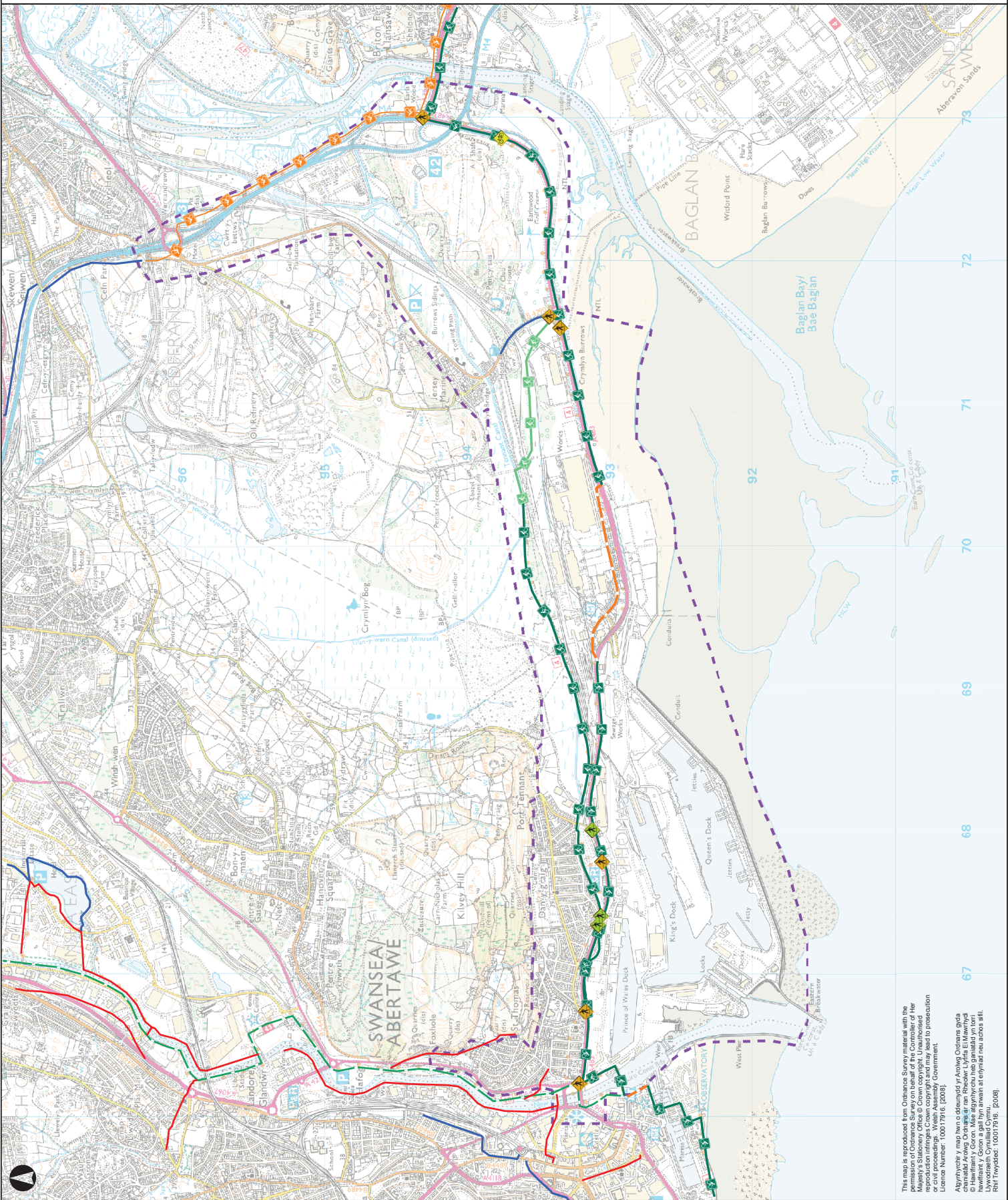
Job Title
**Fabian Way Corridor
Transport Assessment**

Drawing Title
**Existing and Walking
Cycling Facilities**

Scale at A3
1:25,000

Drawing Status
Issue

Job No	Drawing No
207815-00	Figure 4.11
Issue	
P1	



This map is reproduced from Ordnance Survey materials with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction is prohibited. Ordnance Survey is a registered trademark of Ordnance Survey. Welsh Assembly Government. Licence Number: 100017916 (2008).

Abyrhychy y map hwn o ddiarwydd y Arwng Ordnance gyda chynhysiad Arwng Ordnance ar ran Rheolwr Llyfrau EIM Mawrddod © Hewitson y Gocyn. Mae aghyrrychu hys gwallid ar y lori Llywodraeth Cymru. Dim hysbysu at enwau hys ardd ar all. Rhif Tnydisei: 100017916 (2008).